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Evaluating the Predictive Validity of the Implementation Beliefs Assessment on Classwide Management Components

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EVALUATING THE PREDICTIVE VALIDITY OF THE IMPLEMENTATION BELIEFS
ASSESSMENT ON CLASSWIDE MANAGEMENT COMPONENTS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Psychology

by

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ABSTRACT

Given the broad framework of the Positive Behavioral Interventions and Supports model, its barriers to adaptability and implementation in schools have affected an increased emphasis on exploration and measurement of treatment integrity. A tool directly linked with a model of treatment integrity is the Implementation Beliefs Assessment (IBA; Sanetti, Long, Neugebauer, & Kratochwill, 2012). The IBA has preliminary evidence indicating it is a psychometrically sound measure; however, since it is a measure related to behavior change, assessing its predictive validity of treatment integrity is a useful indicator of this tool's value during the consultation process. The current study utilized multiple regression to expand the psychometric properties of the IBA and investigated its association with implementation of proactive classroom management strategies for 35 elementary school teachers in southeastern Louisiana. Results revealed that the IBA was not a significant predictor of behavior, and baseline behavior was the only factor significantly associated with post-training behavior. Secondary analyses also demonstrated the absence of a relationship between PBIS exposure and positive classroom practices. Implications from this study are discussed with the most significant factor indicating that the IBA is not an appropriate measure to use to determine allocation of consultative resources.

Keywords: integrity, classwide PBIS, Implementation Beliefs Assessment

CHAPTER 1 REVIEW OF LITERATURE

Academic standards are highly emphasized in the education system. This is most notable in past and current legislature mandating specific criteria and performance standards (No Child Left Behind Act of 2002; Every Student Succeeds Act of 2015). Particularly targeting primary education settings, researchers and practitioners continue to examine the effects of early education practices on academic, socioemotional development and vocational outcomes (Campbell & Ramey, 1994; Peisner-Feinberg & Burchinal, 1997). An additional area of interest that has implications on academic performance is behavior. The term behavior encompasses a variety of internalizing and externalizing actions and includes definitions pertaining to academic-related behaviors, such as remaining on-task and completing work assignments, and definitions of prosocial behaviors, such as engaging in helping behaviors towards peers. Furthermore, problem behavior may take many forms; however, schools focus on inappropriate behaviors that result in a disruption of school and classroom climate.

To assess the whole scope of behavior in schools, research has examined the effects of negative, or inappropriate, behavior described as talking out without permission, disrespecting teachers and peers, actively refusing directives, and eloping from school grounds. Research of prosocial and self-regulatory behaviors posits students with higher prosocial behavior are more likely to be socially accepted by peers and have an increased likelihood of academic achievement (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Caputi, Lecce, Pagnin, & Banerjee, 2012) whereas students engaging in inappropriate behaviors are at a higher risk of peer rejection, lower academic performance, school drop-out and criminality (Hinshaw, 1992; Stormshak, Bierman, Bruschi, Dodge, & Coie, 1999; Schaeffer et al., 2006; Broidy et al., 2003). Schaeffer and colleagues (2006) found boys and girls who engage in chronically high levels of

aggression and disruption are at risk for antisocial behavior and violent and nonviolent criminal offenses. Given the impact of significant behavior problems in school, legislation, including the recently enacted Every Student Succeeds Act (ESSA) advocates for the use of research-based strategies in an effort to promote positive behavior correlated with current and future academic success (2015). Behavioral interventions encompass a broad approach including strategies targeted towards reducing inappropriate behavior while also remediating appropriate, prosocial and academic behaviors. Although interventions can incorporate various strategies to reduce problem behavior and increase appropriate behavior, effective, or research-based, techniques are emphasized due to the advocacy for evidence-based practice. With this in mind, researchers continue to explore the most effective strategies targeting problem behaviors in schools. Research is extensive and exhaustive in this area, but a recent meta-analysis of 249 studies concluded the most effective approaches reducing disruptive and aggressive behaviors included universal and targeted programs (Wilson & Lipsey, 2007). Within the past decade, researchers have increasingly emphasized universal and proactive strategies. One example of a nationwide effort to increase prosocial and academic behaviors is Positive Behavioral Interventions and Supports, also known as PBIS or PBS (Sugai & Horner, 2006).

Positive Behavior Intervention and Supports: Underlying Principles

Positive Behavior Intervention and Supports (PBIS) is a multi-tiered system of support modified from the public health model targeting proactive and responsive behavioral strategies within the school system (Sugai & Horner, 2006; Flannery, Frank, Kato, Doren, & Fenning, 2013). This framework has been written into state and district legislations, which typically discuss the general characteristics, or core elements, of PBIS: data-based decision making, emphasis on observable and measurable expectations, utilization of evidence-based

interventions, and implementation fidelity (Farkas et al., 2012; Flannery et al., 2013; Horner, Sugai, & Lewis, 2015). The tiered system of support exposes students to evidence-based strategies for reducing disruptive behavior across school settings. The tiered framework exposes all students to the universal, or primary, strategies, and proactive strategies are delivered across tiers. Based on team decisions and examination of student outcomes, students are provided more intensive interventions as they move from universal to targeted tiers. This approach is a more novel approach to responding to specific students' level of needs than previous reactive strategies such as exclusion (Lewis, Mitchell, Trussell, & Newcomer, 2015, Chapter 3; Fox, Dunlap & Powell, 2002).

PBIS is based on key, evidence-based behavioral principles derived from behavioral and social learning theories (Simonsen & Myers, 2014; Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008). These principles build from the operant concepts of reinforcement and punishment, where a behavior from a response class is contingent upon a specific action that increases or decreases the likelihood of future behaviors (Skinner, 1953). PBIS includes strategies based on antecedent variables, or environmental events that precede a behavior (Simonsen & Myers, 2014). For example, a teacher can prompt students to follow the hallway expectations during a class bathroom break. Additionally, PBIS utilizes discriminative stimuli and stimulus delta, a variable that signals that a certain reinforcing or punishing consequence will occur contingent on the occurrence of a specific behavioral actions (Cooper, Heron, & Heward, 2007, p. 261). For example, a student may contemplate tripping a peer due to the likelihood of consequences. In the presence of the school principal, the student does not trip the peer due to the likelihood of a discipline referral. In the presence of close friends, the student trips the peer because he is likely to obtain peer attention.

Other components of PBIS emphasize consequences, or what happens after the behavior. These consequences determine how likely a behavior is to occur in the future, with reinforcement resulting in an increased and punishment resulting in a decreased likelihood. For example, a school may reward perfect weekly attendance by providing tokens that can be exchanged for toys or small treats. A school may also utilize punishment-based strategies to target peer aggression by strictly enforcing zero-tolerance policies and calling parents immediately. Lastly, PBIS utilizes supplemental strategies based on social learning principles. For example, teachers and staff are used to model positive behavior to establish a positive school climate. Taken together, the purpose of PBIS is to incorporate behavioral and social principles to alter the school environment to promote positive student behavior (Bradshaw et al., 2008).

PBIS is associated with many positive student outcomes including increased prosocial and academic behavior as well as decreased problem behavior including bullying (Bradshaw, Koth, Thornton, & Leaf, 2009; Bradshaw, Mitchell, & Leaf, 2010; Waasdorp, Bradshaw, & Leaf, 2012). The approach has been tested across various school settings and is considered efficacious in promoting positive student outcomes across elementary, middle and high schools as well as alternative schools (Farkas et al. 2012; Flannery et al. 2013; Horner, Sugai, & Anderson, 2010). Additionally, social validity reports of PBIS demonstrate the intervention is highly acceptable by students, teachers, and school administrators (Kern & Manz, 2004). As a result of PBIS implementation, school staff also reported positive growth related to organization health, including increased resources and staff affiliation (Bradshaw et al., 2008). Nelson, Martella and Marchand-Martella's work examined additional benefits of PBIS implementation (2002) and found teachers' perceptions of school climate and collaboration increased and stress decreased (as cited from Kern & Manz, 2004). These teachers also rated PBIS as highly

acceptable. In regards to sustainability, PBIS is also likely to be continued in practice by schools (McIntosh et al., 2014). Overall, data collected from meta-analyses and single-research designs validate the purpose and objectives of PBIS, thus demonstrating its effectiveness in delivery of behavioral interventions.

Positive Behavioral Interventions and Supports: Framework in Practice

In schools, universal strategies are implemented via a multitude of modalities including visual displays of appropriate school behavior and consequences, frequent instruction and review of expectations, an established continuum of consequences for appropriate and inappropriate behaviors and active supervision and monitoring across the school grounds. Delivery of these strategies occurs throughout the school and includes classrooms, hallways, and less structured areas such as playgrounds and bus lots. Based on PBIS initiative and recommendations, PBIS teams are formed within the school and schedule regular meetings to assess student's progress using behavioral indicators (e.g. office discipline referrals, behavior screeners).

Students who do not respond to the universal strategies are provided more intensive interventions. These students typically receive interventions such as Check-in/Check-out, or small-group instruction, such as social skills or anger management (Lewis et al., 2015, Chapter 3). If progress monitoring continues to demonstrate insufficient growth, target students then receive more intensive and specialized interventions, such as individual counseling or even more rigorous strategies targeting the function of challenging behaviors. Students that are typically recommended for these tertiary supports engage in high-intensity and severely-disruptive behaviors (Farkas et al., 2012).

Significance of Classwide Management

As stated previously, schoolwide disruptive behavior has a negative impact on academic outcomes and performance within classrooms. The rate of disruptive behaviors is negatively related to use of classroom management skills (Reinke, Herman, & Stormont, 2013). Teacher characteristics and classroom strategies have a significant impact on student outcomes (Montalvo, Mansfield, & Miller, 2007; Powell, Dunlap, & Fox, 2006). Furthermore, Little (2003) studied the effects of disruptive behaviors on classrooms and found it was positively correlated with increased teacher stress and burnout and negatively correlated with student achievement scores and the number of student learning opportunities (as cited in Clunies-Ross, Little, & Kienhuis, 2008). These results have been confirmed through many studies including one conducted by Hallinan (2008), as cited in Kelm and McIntosh (2012).

In a given school day, the child spends the majority of time in the classroom, typically receiving academic instruction. Nevertheless, teachers' roles also include teaching appropriate behaviors that align with school expectations (Emmer & Stough, 2001). Additionally, exposure to effective classwide interventions can increase prosocial and academic behavior while decreasing disruptive, off-task behavior (Reinke, Herman, & Sprick, 2011; Simonsen, Fairbanks, Briesch, & Myers, 2008). Whereas disruptive behaviors result in increased teacher stress (Little & Hudson, 1998), teacher stress is also associated with the severity of classroom behavior problems and the use of reactive strategies that include reprimands (Clunies-Ross et al., 2008), supporting the importance of implementing classwide management strategies to impede in this mutually exacerbating cycle. Overall, behavior problems can impact student achievement, teacher well-being and the overall classroom environment (Little & Hudson, 1998). As a result, it is important to ensure the students are receiving appropriate academic instruction with the use

of effective classroom management strategies. The teacher may employ a variety of different strategies within the classroom to increase appropriate behaviors.

Classroom Components Associated with PBIS

A schoolwide framework for positive behavior supports and recommendations for practices within the classroom that align with these schoolwide approaches are accessible to the public. As previously stated, classwide supports and interventions are incorporated within the universal approach for the reason that all students are exposed to, and may therefore benefit from, the general classroom management strategies. Classroom management refers to the actions of the teacher to foster academic and social-emotional competence through the use of strategies to establish order (Evertson & Weinstein, 2006, p. 4). Classroom management techniques can combine behavioral, ecological, and social-emotional learning principles to enhance rule-following behavior and compliance in the classroom (Bear, 2015, p. 33). Despite these recommendations for specific strategies being available, a school's particular framework does not always specify classwide practices in their PBIS guidelines (Sugai & Horner, 2006).

Although legislation discusses the importance of positive behavioral strategies in the classroom, these notes only provide limited information on PBIS. As a result, researchers have sought to define and further clarify the use of PBIS in the classroom. In general, the following recommendations for classroom components are most commonly aligned with PBIS expectations: (a) define and teach behavioral expectations, (b) develop a continuum for responding to appropriate behavior, (c) develop a continuum for responding to problem behavior, and (d) collect and review data continuously (Horner et al., 2015). Many studies examining various classwide strategies have sought to identify effective proactive and reactive skills in reducing disruptions and increasing student success in the classroom. In an effort to further

operationalize these recommendations in the classroom, Simonsen and colleagues (2008) and Reinke and colleagues (2013) recommend applying specific strategies concentrating on these components. Specific strategies commonly targeting these components include prompting, active supervision, increased praise and increased opportunities to respond; however, many additional techniques that align with classroom management exist. Key factors, as described by Lewis and colleagues (2015), include teaching and displaying classroom rules and routines, utilizing effective instruction, and fostering positive teacher-student interactions (Chapter 3).

Specific skills incorporated under the general categories of classroom management can be obtained in electronic and paper-based materials. Teachers may employ antecedent and consequent strategies. Proactive strategies include clear expectations, praising appropriate behavior, increased predictability in the environment, increased opportunities to respond and pace-appropriate instruction (Kern & Clemens, 2007). Additional recommendations include establishing clear classroom rules aligned with overall expectations and establishing consistency within behavioral routines that are clear and accessible to children. These rules should not exceed five and should be positively stated and age-appropriate (Kern & Clemens, 2007). Initially, rules should be reviewed frequently and briefly, then throughout the year, should be reviewed less frequently review throughout the school year through explicit teaching including modeling and rehearsal (Simonsen & Myers, 2014). Regarding the effects of consistency in routines and review, Mace and colleagues examined the effectiveness of using signal cues and predictable schedules within the classroom to reduce disruptions (Mace, Shapiro, & Mace, 1998).

Additional skills the teacher can implement throughout the day include precorrections, active supervision, and noncontingent interactions. Increased supervision and monitoring in the

classroom have resulted in decreased behavior problems and enhanced effective transitions (De Pry & Sugai, 2002; LeLaurin & Risley, 1972). To promote positive behaviors, the teacher is recommended to use praise throughout the day. It is recommended that praise be brief and specific in reference to the appropriate behavior and should be delivered at approximately four praise statements to every reprimand in order to increase appropriate behavior (Lewis et al., 2015, Chapter 3). Increased praise is related to an increase in on-task behaviors (Sutherland, Wehby, & Copeland, 2000). Conversely, Brophy (1981) found relationships between praise and student achievement were weak and hypothesized some students have different reinforcement preferences, impacting student reaction to praise. Reinke and colleagues (2013) recommend reducing the opportunities of distractibility of the students through the use of a structured physical layout, consisting of appropriate-facing chairs, labeled materials, and clutter-free work environment. For example, Wheldall and Lam (1987) arranged the desks in rows to reduce proximity to peers and distractions. This arrangement decreased disruptions in the classroom, allowing the students to engage in more on-task behaviors.

During instruction, the teacher can facilitate active engagement and learning through the use of opportunities to respond. To increase correct responding and academic engagement, Sutherland, Alder, and Gunter (2003) found increasing opportunities to respond to approximately four instructions per minute was an effective strategy. Further proactive strategies include using a planned lesson, instructing in a brisk pace, and reviewing material based on the amount of correct responding to teacher callouts.

Positive teacher-student interactions have also been associated with positive student outcomes and are consequently incorporated in the PBIS framework. To establish a positive teacher-student interaction, a teacher may convey interest in student learning through use of

checking for understanding, active listening, and noncontingent attention (Schwab and Elias, 2015, Chapter 6). Modeling appropriate interactions and responding appropriately to students' needs and appropriate behavior fosters a nurturing classroom that is demonstrated to promote more engagement, social competence, and self-regulation (Thompson, 2002).

There are also recommendations for responding to inappropriate behavior. As such, the teacher can use explicit error corrections outlining the appropriate behavior expected during the activity to decrease inappropriate behaviors. Teachers are also recommended to utilize planned ignoring of attention-seeking disruptions and reduce the amount of time reprimanding. Furthermore, Matheson and Shriver found that the use of firm voice when giving commands resulted in increased compliance (2005).

Classroom Management Measures

As a result of the impact classroom management may have on student behavior and learning, a vast amount of research has been conducted in an effort to measure variables associated with classroom practices. Historically in research, examiners typically use observations to examine direct indicators associated with classroom management, such as smooth transitions, quality and length of instruction, and frequency of inappropriate behaviors (Brophy, 2006, Chapter 2). Other indirect methods collect student and teacher perception of classroom behavior or student academic outcomes (Brophy, 2006, Chapter 2). Although measurements are limited in daily assessment of classroom management, researchers are attempting to create psychometrically sound self-report and observation measures (Reddy, Fabiano, & Jimerson, 2013). One example of a research-based measure is the Classroom Strategies Scale, which measures frequency of use of classroom practices associated with school-wide PBIS recommendations (Reddy et al., 2013). In 2015, the measure was expanded and

validated as a self-report form for teachers (Reddy, Dudek, Fabiano, & Peters). Both measures have sound reliability and validity properties (Reddy et al., 2013, Reddy et al., 2015).

The Classroom Assessment Scoring System (CLASS; La Paro & Pianta, 2003) is another observational measure of classroom management that has demonstrated reliability and validity (La Paro, Pianta, & Stuhlman, 2004; Pianta, La Paro, & Hamre, 2008). Creation of the instrument was based on previous research of classwide practices and included assessing factors associated with teacher-child interactions, instructional support, management, and emotional climate constructs (La Paro et al., 2004). As such, the instrument measures three domains of classroom management. These domains include Emotional Support, Classroom Organization, and Instructional Support. Clusters of items are measured on a seven-point Likert scale to produce the respective domain scores. Items assessed include positive climate, negative climate, overcontrol, behavior management, teacher sensitivity, productivity, learning formats, concept development, and quality of feedback. Domains will be selected based on appropriateness to the training. Ratings of one or two on the Likert scale designate “low indication of construct observed” with six or seven on the scale representing “high indication of construct observed”. Training to administer this measure is provided, at cost, to interested personnel and includes a manual with further information regarding procedural integrity (Pianta et al., 2008). Psychometric properties of the data have been tested and the measure demonstrated construct validity (La Paro et al., 2004, Pianta et al., 2008).

One measure of classroom management strategies tailored specifically for school-wide PBIS is included in the Benchmarks of Quality-Revised (Kincaid, Childs, & George, 2010). The Benchmarks of Quality-Revised (BoQ) is a rating measure, typically completed by a coach or an internal observer, that assesses the ten critical elements of PBIS: (a) PBS Team, (b) faculty

commitment, (c) effective procedures for dealing with discipline, (d) data entry and analysis plan established, (e) expectations and rules developed, (f) reward/recognition program established, (g) lesson plans for teaching expectations/ rules, (h) implementation plan, (i) classroom systems, and (j) evaluation. Overall, the measure includes 53 items that are scored on a 4-point or 3-point Likert scale referring to level of development and implementation observed. The total score possible is established at 107, indicating all elements were fully implemented. It has been recently revised to include the scale for Classroom Systems. The revision was examined using a factor analysis; reliability and concurrent validity to the SET measures demonstrated it is a useful tool (Child, Kincaid, & George, 2011). This tool is used by internal observers to examine integrity of classrooms within a school in a summative process, rating classrooms collectively to provide information to PBIS teams. These measures reflect the perpetuated rhetoric in the school systems: classroom management is encompassed by many factors and measuring classroom management is time-intensive and often costly.

Classwide Components in Practice

Although these measures confirm the convoluted nature of classroom management, schools are accountable for preparation and supports related to the specific behavioral strategies associated with classroom management. Schools frequently provide annual professional development trainings in an effort to educate teachers on appropriate classwide efforts. However, these trainings may be costly and time-intensive and are not standardized across schools, districts and states, often varying by level of teacher involvement and content. Some teachers may need continuous supports that scheduled in-service trainings do not provide in order to increase appropriate usage of the components (Reinke et al. 2013). Targeted trainings can be informed through the use of a comprehensive assessment of current classroom management practices

(Reinke, Lewis-Palmer, & Merrell, 2008). Reliance on school trainings and professional development meetings has resulted in variability of knowledge of strategies and therefore, inconsistent implementation across schools. Although strategies are recommended in regulations, there remains a discrepancy between policy and implementation of practices in the desired settings. Although research continues to confirm the efficacy of classroom strategies, teachers often continue to lack the skills and training, often negatively impacting integrity and outcomes (Gettinger & Fischer, 2015, Chapter 8). Consequently, it is important for the teacher, as an agent of change, to implement these supports with fidelity through supports of school psychologists and other vital personnel.

Consultation in Multi-Tiered Systems

PBIS training by the Technical Assistance Center on Positive Behavioral Interventions and Supports recommends highly trained professionals provide continuous consultation and supports for teachers implementing PBIS. While policies encourage PBIS in schools, few studies investigate the implementation of the multi-tiered system (Horner et al., 2004). As a result, a gap between policy and actual accountability remains. Given the role of the school psychologist to provide the teacher consultation services to best incorporate practices into his or her classroom, this personnel may be qualified in bridging the gap between policy and practice. A vast amount of research has expanded implementation of classroom management skills and the school psychologists' role in providing supports specific to the implementation of these strategies. Hiralall and Martens (1998) utilized direct instruction methods to teach classroom management skills in preschool staff. After receiving instructions, modeling, praise and monitoring, staff were able to implement classroom strategies with high fidelity resulting in increased on-task behavior. Based on these findings and other seminal works, the role of the school psychologist can be

particularly suitable in identifying and providing supports needed for classroom management considerations. This can be accomplished through the use of progress monitoring and examination of classwide practices through psychometrically sound measures to identify effective factors and improve other factors (Connor, 2013).

As discussed within schoolwide and classwide PBIS, the framework written into law has increased some accountability and awareness for PBIS in schools; however, schools are responsible for selecting resources and trainings as well as measuring the implementation within their system. Both training and continuous supports are recommended in policies; however, the accountability for actual implementation remains minimal. Measurement of PBIS implementation typically consists of measuring schoolwide systems and outcomes, such as office discipline referrals; however, there remains a lack of measuring teacher accountability for classwide PBIS. This is problematic, given teachers' role as direct educator and their continuous interaction with students. These responsibilities only emphasize the importance of implementation fidelity. Furthermore, Witt, VanDerHeyden and Gilbertson (2004) recommend ruling out factors related to classroom structure as a potential threat to integrity of behavioral interventions and a potential cause to individual student problems and intervention barriers.

Although measurements have advanced since their publication, Sterling-Turner and Watson (2002) called for the increased measurement of integrity given the lack of relationship between acceptability and integrity their study concluded. Treatment acceptability is typically a social validity tool utilized mostly in program evaluation; however, it does not replace the important information obtained from actual integrity (Gresham, 1989; Eckert & Hintze, 2000). Sterling-Turner and Watson (2002) found that acceptability, despite being one factor related to integrity, does not predict integrity. An explanation attempting to clarify this discrepancy

suggests that acceptability does not take into account the many different variables and other contextual factors that are part of the overall concept of integrity. Furthermore, Elliott (1988) posits various factors influencing treatment selection and indirectly influencing integrity including severity of the behavior problem, available resources, and method of delivery of intervention strategies (i.e., training). However, models of treatment acceptability have been unable to encompass the many factors related to integrity. Although there were numerous limitations in these studies, the findings demonstrate the overreliance of social validity tools to make claims of integrity although they are not directly related.

Research-Practice Gap

Although legislations mandating policy change and inclusion of PBIS provide the general framework, inclusion of specific strategies, or a packaged manual, are typically absent in law (Horner et al., 2015). The reason for this lack of specificity is to allow schools to adapt strategies to align with their school expectations and to modify components to promote consumer satisfaction. This intention is reasonable; however, without provision of specific components, schools may need additional consultative supports to train and disseminate evidence-based strategies across school settings through continuous pre-service and in-service professional development trainings, as recommended by the Technical Assistance Center on Positive Behavioral Interventions and Supports and respective committee members (Lewis, Barrett, Sugai, & Horner, 2010). Schools and other service providers can access additional material can be accessed on the main website, www.PBIS.org, including scripts for trainings and materials that facilitate implementation across all tiers. Schools employ a variety of external or internal professionals to provide trainings within the school, resulting in variability in scope and clarity of trainings (Farkas et al., 2012). For example, a team is typically established within the school

to convey accountability as they review actions of the school and progress (Lewis et al., 2015, Chapter 3). It should therefore be noted that reliance on school-led professional development and trainings may result in variable implementation and subsequently, in potentially suboptimal outcomes

In addition to a not well-defined training structure, the emphasis or topic discussed in pre-service and in-service trainings may differ across schools and result in differences in knowledge and qualifications of PBIS across trainees. As such, one school may emphasize universal supports heavily while another school focuses on individualized, intensive interventions. This may lead to a lack of effective direct instruction targeting teachers and school personnel and impacting their overall knowledge of the appropriate skills of PBIS.

In response to the identification of evidence-based strategies and provision of training, treatment integrity of PBIS, also known as implementation fidelity, is expanding in research. To review, one of the characteristics of PBIS includes implementation of behavioral strategies with fidelity. Integrity includes the level and number of components an agent of change is implementing, which is vital to a specific intervention (Gresham, 1989). Without assessment of integrity, one cannot achieve outcomes associated with the intervention or state that outcomes achieved were associated with the program (Farkas et al., 2012). Specific to school-based behavioral interventions, implementers and teams cannot examine the progress monitoring data as a valid tool to indicate response to intervention and qualification for a transition of a student through the tiers of support without substantiation of fidelity of intervention components (Bruhn, Hirsch, & Lloyd, 2015; Hagermoser Sanetti, Gritter, & Dobey, 2011).

Treatment Integrity

According to Gresham (1989) and other colleagues within the field of research and practice, demonstrating treatment integrity, interchangeable with the term implementation fidelity, is a necessary component to assess in order to establish a functional relationship between an intervention and the change in the behavior (1989). Treatment integrity is defined as the extent to which the intervention components are being implemented (Gresham, 1989). Five variables are purported to be related to treatment integrity: (a) complexity of the intervention procedures, (b) time required to implement the intervention, (c) materials needed to implement, (d) perceived and actual effectiveness of the intervention, and (e) motivation to implement the intervention. Additionally, factors related to the interventionist characteristics, the environment, organization, and intervention characteristics have been identified as potential influences of integrity (Hagermoser Sanetti & Kratochwill, 2009a).

Treatment integrity is associated with many positive characteristics of an intervention. For example, levels of integrity were correlated with better outcomes (Durlak & DuPre, 2008; Fiske, 2008; Hagermoser Sanetti & Kratochwill, 2009a). Integrity of school-based interventions is emphasized in federal and state legislation and practice due to its importance in the determination of special education placement and services. To qualify for special education eligibilities, a student must demonstrate no growth or responsiveness to behavioral or academic interventions. Therefore, implementation of these components with integrity is necessary to conclude the student is receiving the intervention as recommended but nevertheless does not demonstrate expected improvements.

In research, reporting integrity is vital to draw conclusions on whether or not outcomes are associated with the intervention (Bruhn, et al., 2015; Gresham, Gansle & Noell, 1993;

Hagermoser Sanetti & Kratochwill, 2009a). Moreover in practice, the role of the school psychologist consists of providing indirect services to the target client, typically a child, through consultation with the teacher or interventionist. Although the school psychologist may be responsible for direct delivery of services to the student, the primary goal is to provide the teacher or school personnel with a skillset to remediate behavior or academics of the current student and future students (Erchul & Martens, 2010). Therefore, the school psychologist provides an indirect approach to service delivery for the students and provides the services to the school personnel to implement directly with the student. Consequently, integrity is a main component in ensuring that the intervention was implemented as prescribed through this indirect model (Erchul & Martens, 2010). Measuring treatment integrity can also be useful in determining if the intervention needs to be modified or if the teacher needs additional training. This emphasizes the ongoing approach of collecting treatment integrity. As a result, assessing for integrity has remained a forefront of school-based consultation and intervention research.

Measuring Treatment Integrity

Treatment integrity can be captured through various approaches. Most commonly, it is collected through self report, permanent products, and direct observations (Fiske, 2008). Self-report methods rely on the agent of change recording the components they implemented. This method may be more feasible and less time-intensive for the school psychologist; however, teacher self-report might not be a true reflection of actual implementation (Noell, Witt, Slider, & Connell, 2005; Robbins & Gutkin, 1994). Challenging this finding in some manner, Hagermoser Sanetti and Kratochwill (2009b) evaluated the Treatment Integrity Planning Protocol and found that collaboration with teachers in planning measurement of treatment integrity increased

accuracy in reporting of teachers' self-reported integrity when compared with permanent product. This study did utilize intensive resources in training teachers on self-reporting.

A permanent product of treatment integrity includes examining actual samples of the intervention product. For example, if the teacher were implementing the Good Behavior Game, the school psychologist may collect the number of tallies the students received and the rules provided in the game. Again, this method may be feasible and allow for daily collection of the intervention, but it does not assess for each component of the intervention. In the Good Behavior Game example, the permanent product would not include whether or not the teacher reviewed the rules or provided the reward in the form of a permanent product, therefore, making it difficult to conclude if all the components were implemented.

Although recommendations for assessing treatment integrity state using multiple methods (Keller-Margulis, 2012), the most accurate measure of integrity is obtained through direct observation. In some instances, a consultant will observe the personnel during the intervention, utilizing a components checklist. When each component is observed, the consultant will calculate the percentage of components completed. Direct observation can allow for a more accurate measure of integrity, although it is time-intensive (Fiske, 2008; Noell et al., 2005). Each method of measurement has accompanying advantages and disadvantages, although direct observations yield the most accurate and exhaustive report of integrity. Even though a set standard is not established for specific criteria concerning the degree of implementation, an overall high level of integrity, ranging between 80 and 100%, is often considered sufficient (McIntyre, Gresham, DiGennaro, & Reed, 2007). This range determines whether or not additional supports may be necessary to train the implementer or determine if revision of the

intervention strategy is needed. Overall, measuring integrity can provide meaningful information in research and practice.

Considering the importance of measuring treatment integrity, a multitude of studies have investigated how frequently schools and researchers measure integrity and what methods of data collection they prefer. Hagermoser Sanetti, Gritter, and Dobey (2011) found that majority of studies in school psychology literature failed to report quantitative treatment integrity.

Hagermoser Sanetti, Dobey and Gallucci (2014) examined 26 intervention studies published in *School Psychology International*. They found two studies that reported quantitative data on treatment integrity and an additional three studies that reported monitoring integrity, neither one of which provided readers with data on the integrity results. Bruhn and colleagues (2015)

reviewed 79 articles studying implementation of primary prevention programs and found 36 reported quantitative data on treatment integrity. Across the individual studies in this meta-analysis, methods of integrity collection varied and products typically consisted of checklists, rating scales and permanent products. Of note, the majority of studies collected treatment

integrity once or annually during the duration of the study, two studies reported daily assessments while the other studies did not report the number of times they collected integrity

(Bruhn et al., 2015). One meta-analysis of interventions published in *Journal of Applied*

Behavior Analysis (JABA) found that 25 of the identified 158 studies reported treatment

integrity (Gresham, Gansle, Noell, & Cohen, 1993). Advancing this area of research in the

following decade of published studies in *JABA*, McIntyre and colleagues (2007) found only

thirty percent of studies in *JABA* provided data on treatment integrity (46 of the identified 144

studies). Although McIntyre and colleagues indicated the number of studies reporting treatment

integrity data increased, it appears the numbers continue to be minimal and a pervasive problem

across disciplines and interventions (2007). This number is alarming given the importance of integrity, as reported in various articles and publications. Additional studies regarding types of treatment integrity measures used conclude that self reports are the most frequently used method of integrity and that many studies do not utilize direct observations (Gresham, 1989; Sterling-Turner & Watson, 2002). Examination of integrity in school settings confirms variability in the measures of integrity in schools, including minimal use of appropriate data collection measures and insufficient frequencies of measurement.

Treatment Integrity within PBIS

Although the previous studies discussed integrity of various school-based and individualized interventions, PBIS implementation remains insufficiently researched considering the widespread support for this strategy. Lack of research may be a result of the comprehensive undertaking a measure of integrity would have to achieve. However, reporting integrity in PBIS is recommended in the hopes of identifying the functional relationship between PBIS and positive student outcomes. Consequently, integrity of universal programs has higher importance given the costly repercussions of inaccurate data and reporting, including dissemination of a costly, ineffective program, loss of school funds, diminished student outcomes and reduced sustainability (Peterson, Homer, & Wonderlich, 1982; Sugai & Horner, 2006).

Considering that overall reporting of treatment integrity is generally poor, it is not surprising that integrity measurements as it applies to PBIS is similarly minimal. This includes creation and validation of measures assessing actual integrity within the schools. For example, Hagermoser Sanetti, Dobe, and Gritter (2012) conducted a meta-analysis of studies within the Journal of Positive Behavior Interventions and concluded only 42% of studies reported quantitative data regarding PBIS integrity. In addition, Bruhn and colleagues (2015) conducted a

meta-analysis of the level of treatment integrity in school-wide prevention programs and fewer than half of the schools measured and reported treatment integrity.

Measures of PBIS Treatment Integrity

Given the significance of PBIS treatment integrity, numerous measures have been created to measure adherence and have been made accessible online to promote their usage (www.pbis.org). One tool used to capture characteristics of implementation (Sugai, Lewis-Palmer, Todd, & Horner, 2005) is the Schoolwide Evaluation Tool (SET). This instrument is a 28-item scale assessing the seven, key features of school-wide PBIS (e.g., expectations defined and taught, continuum of consequences for problem behavior, continuum of rewards for appropriate behavior, and administrative supports). Items are measured on a 3-point Likert scale whether or not the strategy is 1, not implemented, 2, partially implemented, and 3 fully implemented. Typically, an external evaluator directly observes the practices of the school and interviews select administrators, students, and teachers. The tool has psychometrically sound properties, including test-retest reliability, internal consistency, and construct validity (Horner et al. 2004). However, the measure is time-intensive, requires training to use and measures the features only related to the primary prevention factors (Horner et al. 2004).

Additional measures of integrity include the Team Implementation Checklist (Sugai, Horner, & Lewis-Palmer, 2002a) and the Coaches Checklist (Sugai, Horner, & Lewis-Palmer, 2002b). Both measures include checklists specific to team leaders or trainees. The Benchmarks of Quality-Revised (Kincaid, Childs, & George, 2010) is another tool used to identify the level of integrity of the ten, critical elements associated with school-wide PBIS. A coach rates 53 items loading onto these factors on either 4-point or 3-point rating scales, based on level of implementation observed and enters them in the scoring form. A scoring guide provides the

coach operational definitions for each of the ratings (Kincaid et al, 2010). Scores reveal the overall level of implementation of that school to facilitate a discussion on strengths and weakness and plan future implementation procedures. At that time, several items were removed and a classroom factor and scoring was modified. Data confirmed that the changes resulted in psychometrically sound properties of the measure (Childs, Kincaid, & George, 2011). An additional self-report measure tool is the Self-Assessment Survey, or SAS (Sugai, Horner, & Todd, 2000), which is completed by all staff members within twenty to thirty minutes based on individual observations of implementation of key features of PBIS across universal, nonclassroom, classroom, and individual student systems. Raters indicate the status of implementation of the feature as well as the priority or importance of improving this feature.

Conversely, given the increase in measures and attention to research on PBIS outcomes, implementation integrity of PBIS continues to remain limited. Although research is slowly advancing in providing direct examinations of integrity of schoolwide PBIS, few were identified during this study. Mathews, McIntosh, Frank, & May (2013) assessed the predictive validity of the PBIS Self-Assessment Survey, a self-report measure of integrity, on longitudinal integrity, which was collected using the BoQ three years after the initial integrity was obtained from 261 schools in the United States. Results demonstrated that self-reported integrity predicted distal integrity, additionally, data describing frequency of responses and characteristics of respondents were provided (Mathews et al., 2013). The SAS is composed of four scales, integrity was reported by percent of features implemented within each scale, School-wide (61%), Nonclassroom (56%), Classroom (62%) and Individual (42%). The BoQ score in this study was converted to a percentage of sustained implemented in this study. The average reported BoQ percentage was 83% (range= 38-100%). This shows implementation integrity is being reported

through the use of self-reports and direct observations; however, overall direct observations revealed variability in implementation, with integrity as low as 38%. Meng and colleagues examined the relationship between the level of implementation of school-wide PBIS and sustainability of a separate exercise program in 72 schools (Meng, McIntosh, Claassen, & Hoselton, 2016). Integrity was collected using the BoQ, SET, SAS, and TIC. A description of the integrity reported that 57% of the schools implemented school-wide PBIS with fidelity, as specified by tool criterion. As a result, 31 of the 72 schools were reported as not implementing fidelity.

Barrett, Bradshaw and Lewis-Palmer (2008) examined PBIS implementation across Maryland schools and compared each integrity tool with new team and returning team scores (2008). Again, the TIC, SET, and Coach's Implementation Checklist measures were administered. According to their study, scores on the TIC were 51 and 76%, while scores on the Coaches Checklist were 83 and 65%. Overall scores on the SET were averaged to 82%. These results of integrity sound promising but are specific to the state of Maryland and its PBIS practices. Additionally, reports of integrity relied heavily on self-report or report specific to specialized PBIS teams and were not measuring classroom management components directly. Much of the focus of this research is on the broad, universal policies of PBIS within the nonclassroom settings or focuses on more intensive interventions at more targeted tiers (Newton, Horner, Algozzine, Todd, & Algozzine, 2012).

Of the studies reporting degree of implementation of PBIS, fidelity is rarely captured regarding teacher's implementation of school-wide PBIS within the classroom setting. For example, on measures previously discussed, classroom practices are incorporated within a small factor to assess overall classroom practices and are not specific to individual teacher practices.

Lack of specific measures have resulted in limited information regarding teacher integrity, although this area is critical to study (Fallon, McCarthy & Sanetti, 2014). Fallon, McCarthy and Sanetti collected teacher's self-report of classroom-based practices using a modified version of the SAS. Sixty-percent of the teachers that responded to the mailed survey reported that they implemented seven of the twelve strategies consistently. Their study found that teachers reported they consistently implemented many of the recommended classroom components associated with PBIS; however, self-reported integrity may not be accurately reflective of actual practices and the study did not confirm actual practice. Jeffrey, McCurdy, Ewin and Polis (2009) created an integrity tool to identify level of classroom implementation in their pilot study. Their research identified teachers had low integrity after initial professional development and required performance feedback to enhance integrity, thus demonstrating the importance of continuous integrity collection needed after trainings. Lack of implementation may result in reduced program outcomes; therefore, all levels of implementation should be measured to create buy-in, sustainability, and sound research (Sugai & Horner, 2006).

Implementation Science

Although research on integrity within the multi-tiered system of delivery remains limited, it is an important factor to identify and measure across all systems. Researchers have investigated factors related to integrity in order to promote and enhance program and intervention compliance (Gresham, 1989; Gresham, 2009; Hagermoser Sanetti et al., 2011). Just as it is important to report integrity, it is also important to have the proper strategies to respond to low integrity (George & Childs, 2012).

One expanding body of research attends to ways of promoting program implementation into routine use for systems and individuals (Eccles & Mittman, 2006). This research is regarded

as implementation science, a recent field identifying theories of behavior change to predict program adoption and treatment integrity. Implementation science is a fairly novel approach used to examine factors related to implementation of evidence-based practices in the natural setting. In schools, this approach can examine implementation at all three tiers of service. Additionally, a main emphasis of implementation science is in identifying what variations may occur when adapting an intervention in another setting and how it may affect outcomes (Forman et al., 2013). In other words, implementation science attempts to identify the core components associated with outcomes and empirically-supported strategies to successfully integrate these components in a social system. Although this approach is utilized across various human sciences and disciplines, Forman and colleagues (2013) emphasize the importance of identifying factors related to implementation of programs in schools. Elements of implementation that are common across a wide-range of conceptualizations include a new, evidence-based program to the organization, information-sharing between program disseminators and novice parties, a context in which the implementation of this program will occur, and a change agent (Forman et al., 2013). In schools, the school psychologist is equipped to be tasked as the change agent. Additionally, with the use of school personnel as mediators or implementers of evidence-based programs, researchers within this area examine what factors are adapted and what factors are eliminated and how this may affect intervention outcomes (Forman et al., 2013; Rohrbach, Grana, Sussman, & Valente, 2006).

Given this science applies across multiple disciplines, many models of implementation science and integrity have been formulated and hypothesized. Although there are many models attempting to posit factors related to implementation and behavior change, one single theory has not surpassed others in evidence. As a result, researchers recommend continuing the examination

of all theories with a critical eye and use a multi-modal method combining different aspects and not grounding oneself in a singular approach (Nigg, Allegrante, & Ory, 2002). Some theories explain systems-level while others explain individual-level influences to implementation. For example, theories such as systems theory (Berrin, 1968), behavior theory (Skinner, 1969), and social learning theory (Bandura, 1977) propose that behavior change is affected by factors external to the individual. When conceptualizing a model of program implementation in schools, diffusion theory explains behavior change is influenced by attitudes and beliefs of members within the social system influence adoption of new programs (Rogers, 2003).

Another effort to explore the process of implementation in routine practice is the normalization process theory. This theory's objective is to identify factors that inhibit or promote action within the routine practice of interventions in naturalistic settings, as explained by May and Finch (2009). May and colleagues further state that "routine embedding" of an intervention is determined by four factors: the definition of the practice, apprehension to practice, the level of coherence in the practice, and the collective investment of meaning in the practice. Greenberg, Domitrovich, Graczyk, and Zins (2005) posited the examination of a variety of contextual and individual-level factors related to actual implementation. Both researchers reasoned that classroom, school, district, and community levels determine program implementation. For example, teachers, as primary implementers, may have specific characteristics associated with the likelihood of integrity (e.g., motivation), that are irrelevant at the district level. Other specified factors include: classroom and school climate, community support, administrative stability, and district goals; however, the exhaustive view is not included in this paper as intuitively they all appear to affect program adaptation but conclusive evidence has not been examined (Greenberg et al., 2005).

Non-specific to the school-based approach, Nigg, Allegrante, and Ory (2002) studied individual influences of behavior change in disease prevention by examining the current models and theories of health behavior: health belief model, self-determination theory, social cognitive theory, theory of reasoned action/planned behavior, and transtheoretical model. The health belief model, developed in the 1950s, purports behavior is dependent upon six factors: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, health motivation and cues to action (Janz & Becker, 1984). Research supports the impact of perceived barriers and perceived susceptibility on preventive-health behaviors (Janz & Becker, 1984). Along with the health belief model, the social cognitive theory model is another motivational model that suggests outcome expectations and self-efficacy determine future behavior (Armitage & Conner, 2000). Overall, both components account for some variance in behavior change; however, self-efficacy accounted for the most.

Another type of model, coined a multi-stage model, purports discrete changes at different stages determine different behavioral actions of an individual, and different approaches should be utilized at different stages to elicit change (Armitage and Conner, 2000). One example of a multi-stage model is the Health Action Process Approach (HAPA; Lippke, Ziegelmann, & Schwarzer, 2004). In this approach, implementation of a behavior is determined after two discrete phases: motivation and volitional (Schwarzer & Renner, 2000). Individual factors influence action at each stage. The motivational phase consists of risk perception, outcome expectancy beliefs, and self-efficacy. The volitional phase extends to planning for action and the maintenance of the behavior. Although research remains limited in examining the specific factors related to behavior change through the stages, these models have attempted to successfully explain components useful in targeting and intervening to improve implementation.

A recommended step would be continuous measurement at each stage to identify the most predictive variables contributing to implementation, or behavior change (Armitage &Conner, 2000). These approaches have influenced many researchers across disciplines.

Health Action Process Approach Model Applied in Schools

Theories of adult behavior change have been used to examine characteristics predictive of treatment integrity in school-based interventions and to expand current research and measurement production. Sanetti, Kratochill, and Long (2013) adopted a health psychology model of adult behavior change and applied it to the school setting. This model was geared to identify factors related to self-regulation and planning that predict treatment integrity of school-based interventions. As previously discussed, adult behavior change includes a vast expanse of research measuring factors influencing initiation of implementation and sustainability of treatment adherence. Specifically, Sanetti and colleagues adapted the features of the HAPA model, as well as other evidence-based practices, to form the Planning Realistic Implementation and Maintenance by Educators system (PRIME; Sanetti, Kratochwill, Collier-Meek, & Long, 2014). The PRIME approach emphasizes supports and trainings in the preimplementation phase to increase implementation sustainability (Sanetti & Long, 2013). PRIME supports and techniques can be accessed in a document by professionals interested in applying strategies to increase implementation of research-based interventions in schools. Within the PRIME document, practitioners and researchers will find techniques and scales to be used during treatment implementation and evaluation (Sanetti et al., 2014).

Specifically, many of the components and scales were created with an emphasis on the HAPA model. To briefly review, the HAPA model focuses on behavior change across two phases, motivational and volitional. Motivation refers to the willingness to implement the

intervention. It is composed of three factors that influence behavioral intention: outcome expectancies, perception of the target problem, and self-efficacy. The volitional phase refers to the actual initiation and maintenance of intervention and is influenced by self-efficacy (i.e., one's ability to plan for initiation and barriers). Furthermore, initiation and maintenance are associated with sustainability of behavior change (Sanetti & Kratochwill, 2009b). Additionally, each phase should be measured by the distinct factors associated with enhancing treatment integrity. For example, factors related to outcome expectations or perceived problem may be measured at the motivational phase while specific factors related to self-efficacy may be measured after implementation of an intervention (Sanetti, Kratochwill, Collier-Meek, & Long, 2014). These factors have been examined and identified as important and influential at discrete stages; therefore, it is recommended to target both self-efficacy and outcome expectations (Lippke & Plotnikoff, 2014). Each factor can be measured and additional supports can be tailored toward the needs of the teacher. Given PBIS policies mandate the change of teacher and school behaviors as it relates to providing the tiered supports to students, the theory of adult behavior change can apply to measure characteristics associated with behavior change and implementation of PBIS. As Sugai and Horner (2006) stated, large-scale implementation will cause some setbacks as attitudes and biases may affect immediate change and maintenance; therefore, understanding adult behavior can provide valuable information in guiding implementation.

Sanetti and Kratochwill (2009) further investigated components of the HAPA model, such as planning and self-monitoring. They found that measuring these components increased level of integrity of teachers. The study found emphasizing these factors and including assessment methods incorporating these factors was directly related to reported treatment integrity. This study emphasized the importance of measuring treatment integrity in an efficient

and valid way and expanded research concluding the importance of identifying factors related to integrity.

Research on Self-Efficacy and Outcome Expectations

Self-efficacy, described as one's appraisal of their ability to complete an action (Bandura, 1986), has been measured and examined across a variety of disciplines, resulting in variability within methodology and results. Kelly and Greene (2014) examined the construct of self-efficacy to find its predictive ability associated with sobriety in young adults with substance use disorder; however, other variables mediated the effects and self-efficacy depended on self-reported motivation. Conversely Slovinec D'Angelo, Pelletier, Reid, and Huta (2014) demonstrated the main effects of self-efficacy and found this factor predicted short-term behavior change in an exercise program.

In schools, self-efficacy has been measured in various studies; however, the outcomes typically include student characteristics such as academic achievement. Of the studies that have looked at self-efficacy and teacher practices, results are promising. For example, Reinke and colleagues (2012) found that teacher reported self-efficacy of classroom management skills was positively related to frequency of delivered praise. In the same study, self-efficacy was negatively related to use of reprimands, although those results were at the significant threshold. Additionally, self-efficacy was negatively related to student disruptions, another indicator of positive classroom management skills. In another study with additional colleagues, Reinke continued examining self-efficacy and emotional exhaustion using direct observations of classroom practices and extended findings on self-efficacy: self-efficacy was a significant predictor of use of reprimands and contributed some variance to use of general praise, harsh reprimands, and instructional quality (Reinke, Stormont, Herman, Wachsmuth, & Newcomer,

2015). Measuring the predictive ability of reported self-efficacy, Holzberger, Philipp, and Kunter (2013) confirmed a partially causal effect of teachers' reported self-efficacy on instructional quality; however, the study confirmed it was a reverse effect and ratings of classroom management predicted teacher's self-efficacy. One study examined other qualities of instructional efficacy, including cognitive action, classroom climate, and classroom management, and found self-efficacy was a strong predictor of each factor (Künsting, Neuber, & Lipowsky, 2016). Both predictor and outcome measures relied on self report or student report.

Kelm and McIntosh (2012) attempted to measure the relationship between schoolwide PBIS implementation and self-efficacy by using the Teacher's Sense of Efficacy Scale. Researchers found teachers working at schools implementing PBIS reported higher self-efficacy than schools operating without PBIS. This study, although insightful, did not examine the implementation of PBIS in the classroom nor did it measure the causal nature of self-efficacy. Other studies have also confirmed the association between self-reported self-efficacy and self-reported innovative work behavior in the classroom, emotions experienced at school, and organizational citizenship behavior (Bogler & Somech, 2004; Hsiao, Tu, Chang, & Chen, 2011; Stephanou, Gkavras, & Doulkeridou, 2013); however, few studies have looked at self-efficacy on actual teaching behaviors using direct observations.

When comparing the vast amount of research examining self-efficacy with studies measuring outcome expectations, fewer studies have attempted to parse out effects associated with outcome expectations. Cohen, McCarthy, Brown, and Myers (2002) examined outcome expectations related to smoking behavior and found participants' reinforcement expectancies of smoking were related to actual smoking. Waas and Anderson (1991) investigated treatment acceptability and outcome expectancy of school and college-age students regarding school-based

interventions. Results of their study indicate acceptability and expectancy were related factors that should be considered as separate important constructs. Price and Anderson (2012) examined if outcome expectancy was associated with treatment response for social anxiety disorder and found that expectancy ratings did significantly predict rate of change and response to treatment. Research appears promising; however, direct relations of outcome expectancies and teacher performance remain lacking in current literature. Although models posit these characteristics are vital, research is still needed to measure both factors and their relation to an integral variable of implementation: integrity.

Implementation Beliefs Assessment

The Implementation Beliefs Assessment (IBA) is intended to measure the associated factors with the HAPA model within the school-based behavioral consultation framework: Outcome Expectations and Self-Efficacy. It is a self-report measure modified from the original scale, Implementation Intention and Self-Efficacy Measure. The II-SEM included three factors, Self-Efficacy, Outcome Expectation, and Negative Affect. Long, Sanetti, and Neugebauer (2012) employed an exploratory factor analysis and identified self-efficacy and outcome expectation as the most reliable, weighted factors. Upon modification of the measure, the IBA is a 19-item self-report measure identifying two factors related to behavior change and intervention implementation (Sanetti, Long, Neugebauer, & Kratochwill, 2012). Long and colleagues' research provides preliminary evidence of the psychometric properties of the measure; however, research remains limited on the validity of the measure (Long et al., 2012). Specifically, the measure is suggested to identify teacher perceptions related to their performance and the efficacy of the intervention to identify level of supports needed and to assess for factors associated with

integrity (Sanetti et al., 2013). Although this hypothesis has not been examined in research, this theory has the potential to provide invaluable information to guide supports in schools.

Current Study

As recommended, ongoing consultative supports are needed for universal implementation of PBIS. Furthermore, the use of a measure to identify how these resources are allocated is desirable. Identifying variables predictive of treatment integrity will inform further consultation to teachers and intervention mediators efficiently in an effort to achieve behavior change and positive outcomes. The current study sought to further enhance the psychometric properties of the Implementation Beliefs Assessment (IBA). Specifically, this study investigated the predictive validity of the total score as it relates to treatment integrity of classwide components associated with PBIS. The first research question was to evaluate if self-reported self-efficacy and intervention effectiveness were related to and associated with implementation of the respective strategies. It was hypothesized that the total score on combined Self-Efficacy and Outcome Expectations would predict classwide PBIS implementation, as reported by the observed treatment integrity. Additionally, this study examined if previous exposure to PBIS was related to current classwide implementation. It was hypothesized that years working in a school implementing universal PBIS and number of in-service trainings received on PBIS would be positively correlated with observed classwide PBIS implementation. As a secondary purpose, this study investigated respondent characteristics to report on acceptability and observed integrity of current classwide practices to inform understanding of PBIS in Louisiana schools.

CHAPTER 2 METHOD

Institutional Review Board approval was obtained prior to recruitment and data collection. School administrator consent was acquired, followed by teacher consent. A more exhaustive discussion of recruitment procedures can be found in the procedures section of this document.

School Eligibility

In order for the school to be included in the study, the researcher obtained administrator consent and used a checklist to ensure schools were implementing some components of PBIS (A copy of this checklist can be reviewed in Appendix A). The checklist includes modified components from Horner, Sugai and Lewis' (2015) recommendations for core elements of universal, behavioral approaches. Quality of implementation was not assessed, instead, the researcher reported implementation of the core elements using a dichotomous approach. If at least two components on the checklist were observed or reported by the administrator, the school was included for recruitment. Additionally, the administrators confirmed the use of PBIS in their schools and demonstrated some familiarity with PBIS components and their objectives in the schools.

Participants and Setting

Teachers were selected from elementary schools located within southeastern Louisiana. Schools were located in both urban ($n = 2$) and rural ($n = 2$) districts. The researcher reviewed informed consent with teachers and obtained consent during group meetings before proceeding. Based on an apriori prediction from a power analysis for a multiple regression analysis, a sample size of forty-two participants was needed to achieve a medium effect size ($f^2 = 0.20$) and .80 power. Effect size and power preferences were derived from previous research on self-efficacy

(Faul, Erdfelder, Buchner, & Lang, 2013; Holzberger et al., 2013; Künsting et al., 2016; Reinke et al., 2012). Approximately 105 teachers were asked to participate in the study. Of this sample, 53 teachers returned the consent form, and 18 of those teachers did not select to participate in the study. Overall, thirty-five teachers, from kindergarten through fifth-grade classrooms, were recruited from four elementary schools utilizing schoolwide positive behavior interventions and supports. Demographic information can be found in Table 1.

Table 1. Participant Demographic Information ($N = 35$)

Category	<i>n</i>	%	Category	<i>n</i>	%
District			Gender		
Urban	24	68.6%	Male	0	0.0%
Rural	11	31.4%	Female	35	100%
Ethnic Identity			Years Working in Field		
African American	20	57.1%	1-4 years	18	51.4%
White, Non-Hispanic	12	34.3%	5-9 years	6	17.1%
Asian	1	2.9%	10-14 years	6	17.1%
Multi-Racial	2	5.7%	15-19 years	0	0.0%
			20+ years	5	14.3%
Grade Taught			Years in Current School		
Kindergarten	10	28.6%	1-4 years	27	77.1%
1 st	8	22.9%	5-9 years	6	17.1%
2 nd	4	11.4%	10-14 years	2	5.8%
3 rd	4	11.4%	15-19 years	0	0.0%
4 th	4	11.4%	20+ years	0	0.0%
5 th	2	5.7%			
4 th and 5 th	2	5.7%	PBIS Trainings		
All	1	2.9%	0	12	34.3%
Years in PBIS School			1-4	13	37.1%
1-4 years	22	62.9%	5-9	6	17.1%
5-9 years	8	22.9%	10-14	1	2.9%
10-14 years	4	11.4%	15-19	1	2.9%
15+ years	0	0.0%	20	1	2.9%
Don't Know	1	2.9%	Don't Know	1	2.9%

All teachers identified as female, which is fairly representative of the selected population. Of the participating teachers, 57% identified as African American ($n = 20$), 34% identified as White/Non-Hispanic ($n = 12$), 6% identified as Multi-Racial ($n = 2$), and 3% identified as Asian ($n=1$). Among the sample, teachers taught a wide range of subjects, including: all core subjects ($n = 25$, 71%), English ($n = 5$, 14%), social studies ($n=1$, 3%), reading and math ($n = 3$, 9%), or math and science ($n = 1$, 3%). The teaching experience of the sample ranged from less than one year to thirty-five years ($M = 8.37$, $SD = 8.46$), while years teaching at the current school ranged from less than one year to twelve ($M = 3$, $SD = 2.95$). Teachers ranged on their number of years working in any school using PBIS from zero to ten ($M = 4.03$, $SD = 3.65$). When asked to report the number of in-service trainings they had received on the topic of PBIS, teachers reported a broad range from zero to twenty-five trainings ($M = 3.32$, $SD = 5.09$). Twelve teachers responded that they had received zero trainings (34%).

Measures

Demographics Form

A brief demographics form was included in all survey packets to identify teacher characteristics including ethnicity, gender, subject taught, years of experience in schools, years of working in schools implementing PBIS strategies, number of PBIS trainings attended, and educational setting of classroom taught (e.g., general education, gifted, special education). Additional items were included to promote comprehensive data collection asking the teachers to identify their room location and instruction times, omitting ancillary and lunch times. A copy of the form is included in Appendix B.

Treatment Integrity Form

Researchers collected observed treatment integrity of PBIS classwide components during separate, 30-minute observations, as recommended by Gresham (1989). Although many factors and dimensions can be obtained to measure treatment integrity, this study will focus on adherence and direct observation of each component of classwide implementation included in training. Components listed on the checklist include the evidence-based practices for enhancing classroom management that align with recommendations listed in the introduction and are obtainable online through national organization of PBIS or through PBIS material in press (Simonsen & Myers, 2014; George & Childs, 2012). These five components assess whether or not the teacher (a) established set of classroom expectations, (b) reviewed and prompted for expectations, (c) acknowledged appropriate behavior using specific praise, (d) acknowledged inappropriate behavior using error corrections, and (e) utilized the recommended ratio of praise to reprimands. Additionally, observers recorded the frequency of praise and reprimands which will also be calculated in overall observed integrity. A sample of the PBIS Classwide Components Integrity Form is included in Appendix C.

These recommendations for a brief, specification of components and observations of the occurrence and nonoccurrence were specified in Gresham article (1989). Although dichotomous rating methods prove useful, the researcher sought to examine the range of implementation of classwide components in an effort to collect more information and lead to a stronger analysis. As a result, the form measured the extent of implementation by assessing the range of behavior observed. Each item was rated on a 3-point scale indicating the level of adherence to each operationally-defined component. A score of zero indicated the component was not observed, a score of one would indicate some, albeit not all, presence of the component, while a score of two

would indicate all of the defining aspects of the component were observed. Therefore, a teacher could earn a total score ranging from zero to ten on each form. A total of four forms were completed for each participating teacher. Two were collected before the training and two were completed after the training.

Classwide PBIS Professional Development Training Guide

The training guide was delivered on a PowerPoint to participating teachers based on their availability noted during the initial consent meeting. Trainings were conducted for approximately 30 to 45 minutes and included direct training methods on the following strategies of classwide PBIS: (a) theory and framework of PBIS in schools; (b) overview of classroom recommendations aligning with PBIS; (c) defining, posting, reviewing, and monitoring expectations; (d) theory and practice of precorrections; (e) characteristics and delivery of praise; and (f) strategies for responding to inappropriate behavior. These behavioral strategies align directly with the integrity form. Information incorporated within the training was modified from critical works related to PBIS and included recommendations from Simonsen and Myers (2014) and Lewis and colleagues (2010). The purpose of training was not to intervene or cause a change in behavior; instead, it was to control for previous knowledge of PBIS as a potential confounding variable affecting teacher classwide practices.

PBIS Training Procedural Integrity Form

The primary researcher conducted the trainings utilizing the same PowerPoint across participants while referring to and completing a brief guideline for the researcher to use to ensure procedural integrity. Procedural integrity in this aspect refers to the inclusion and training of vital topics associated with PBIS and application of appropriate instructional methods. The PBIS Training Procedural Integrity Form can be found in Appendix D. The form is a self-report

checklist that includes a dichotomous scale assessing training on the five components included in the integrity form.

Implementation Beliefs Assessment (IBA)

The IBA (Sanetti et al., 2012) is a 19-item, self-report questionnaire administered to teachers to identify factors related to integrity (Long, Sanetti, & Neugebauer, 2012). These factors evaluate the rater's perception of the intervention efficacy and perceived ability to implement the intervention. The questionnaire's items make up two subscales: Outcome Expectations and Self-Efficacy. Additionally, a total score can be obtained by using the average summation. Items are added together and divided by 19 to obtain the total score. A copy of the scale and scoring guide can be accessed in Appendix E. Outcome Expectations refers to the perceived effectiveness of the intervention targeting the problem behavior while Self-Efficacy refers to the change in agent's confidence in implementing, continuing, and resuming the intervention as a result of training. Each item is rated on a 7-point Likert scale with ratings of 1 indicating *Completely Disagree* and ratings of 7 indicating *Completely Agree*. Higher scores demonstrate higher levels of self-efficacy and outcome expectations. Conversely, lower scores demonstrate lower levels of the factors.

Preliminary data exists regarding the item structure and factor loading with the intent to identify and create a scale to measure factors predicting treatment integrity (Sanetti et al., 2012). Long and colleagues (2012) conducted an exploratory factor analysis of the initial measure, previously named Implementation Intention and Self Efficacy Measure, and found items loaded onto their respective factors: Outcome Expectations, Self-Efficacy, and Negative Affect; however, internal consistency was adequate for only Outcome Expectations and Self-Efficacy. The measure is intended to assess for factors predicting treatment integrity, and it is

recommended that the measure be utilized throughout the plan implementation process of the consultative framework to assess for strengths and potential barriers of the consultee (Sanetti et al., 2014).

Procedure

Recruitment and Consent

Before conducting baseline procedures, the researcher received approval from the institutional review board and obtained written consent from administrators through electronic and personal contact. The researcher recruited during the duration of the 2016/2017 public school year. Flyers and personal contact methods were utilized to acquire participants in this study. Specifically, the researcher contacted district-level education coordinators and superintendents. A small monetary incentive was provided for participation; teachers were entered into a lottery system to win one of five available fifteen dollar gift cards. Teachers reviewed the informed consent form with the researcher present. Written consent was required from all participants before proceeding with the study procedures. All related documents can be viewed in Appendix F.

Data Collection Training

Research assistants received 30-minute trainings on the data collection procedures. Training included review of operational definitions of each component and available rating scores. Examples and nonexamples were also discussed for each response option. Additionally, assistants were required to achieve a minimum of 80% agreement with the primary researcher during an observation before collecting integrity data independently.

Baseline

Before any professional development or training, participating teachers were observed by trained researchers during their regular classroom routine. Trained researchers discreetly entered the classroom during an instructional activity. Two, thirty-minute observations were collected for each teacher on baseline classwide components integrity. Both observations were done within seven days of each other and during the same instructional time. To diminish potential reactivity to the observer, participants were not informed of exact behaviors being observed; however, they were informed that they would be observed for classroom management strategies for the purpose of the study they consented to participate in. A total of 67 observations were conducted. Three observations were unable to be obtained due to time constraints and scheduling conflicts. These missing observations were random and independent of participant demographics and school.

Classwide PBIS Training and IBA Administration

To reduce the potential influences of previous knowledge of PBIS and promote similarity among sample characteristics, all teachers received a 30- to 45-minute training of classwide PBIS. This training was administered by the researcher and trained assistants in a whole-group (i.e., 12-25) or small-group format (i.e., 2-6). Trainings were delivered during school-wide professional development days or during grade-level meetings. Using an effective instructional framework and recommended approaches for direct trainings, teachers were provided training on the behavioral strategies related to the components of classwide PBIS. To promote active listening and learning from participants, the researcher employed direct training techniques, including active involvement and participation, modeling, and guided practice with continuous performance feedback (Sterling-Turner, Watson, Wildmon, Watkins, & Little, 2001; Sanetti et

al., 2014). In order to establish consistency in training, the researcher completed the procedural integrity form after each training. Average self-reported integrity was 100%.

After the completion of training, each participating teacher was asked to complete the IBA while considering all techniques taught in the training. All forms were collected and reviewed immediately after the training to allow time for teachers to correct any missing items.

Post-training Observations

Following the first seven school days of the training, researchers collected two additional, direct measures of treatment integrity using the same form. Care was taken to observe during the same 30-minute instructional time to gather baseline information. For instance, if baseline observations occurred during a morning time, the observer scheduled the following observations within a similar morning time frame. A total of 69 observations were conducted. One observation could not be collected due to time constraints. This missing data was random and independent of participant demographics and school. Throughout observations of integrity, feedback was not provided. Although the practical benefits are large and research supports provision of performance feedback, this study sought to reduce any potential uncontrolled variables associated with implementation fidelity. The teachers were informed that, if interested, they could seek feedback after the conclusion of the study.

Interobserver Agreement

Based on recommendations from behavioral researchers, interobserver agreement (IOA) was collected for 23% of the observations. IOA is collected to inform the reliability of the measurement system and to assess the accuracy of the data collection method for the study's dependent variable (Cooper et al., 2007). A second observer was present for 31 of the 136 observations, dispersed between baseline and post-training observations. Both observers

simultaneously completed an integrity form independent of the other observer present. Percentage of agreement between the primary observer's and the secondary observer's forms was calculated using an interval-by-interval method (Cooper et al., 2007). Average agreement across observations was 81%.

Data Analyses

Data was entered into the program software by the researcher; however, 20% of the IBA measures and 20% of the observed integrity measures were randomly selected and checked for accuracy of input in the program software (Statistical Package for the Social Sciences, SPSS). Discrepancies were immediately addressed by referring directly to the raw data, and corrections were made accordingly. Based on the range of responses for demographic information, data was coded nominally or numerically. Treatment integrity and total IBA scores were entered numerically. Although ratings for each component were entered, they were transformed into new variables: average pretreatment integrity and average posttreatment integrity. Additionally, average ratings of pretreatment integrity and posttreatment integrity for each of the five components were calculated and entered to identify any differences in performance across the behaviors. Average scores of Outcome Expectations and Self-Efficacy were also entered into SPSS.

Three sets of analyses were performed using SPSS version 22.0 (2016) and version 23.0 (2017). For the tests of significance, relationships and variance were considered statistically significant if they demonstrated a probability level of $p < .05$ (Cohen, 2008, Chapter 5). Descriptive analyses were conducted to examine demographic variables of participants as well as any characteristics regarding frequency of responding on the IBA and observed treatment integrity.

To examine relationships between IBA factors and observed integrity, the researcher ran a correlational analysis entering all factors into the model to perform a linear correlation analysis. Additionally, the researcher examined teacher variables such as past experience working in PBIS schools and complete number of PBIS trainings received to examine a possible relationship with integrity. A Pearson's r was obtained and evaluated at the same significance level, which provided information regarding the trend and strength of the relationship and guided further regression analyses by testing for the linear relationship between the predictors and the criterion (Cohen, 2008, Chapter 17).

In order to examine the predictive validity of the IBA for treatment integrity, a hierarchical regression analysis was conducted. In an effort to diminish inflated variance of the predictors and control for variance contributed by other characteristics, the researcher collected data and examined other potential factors to identify whether inclusion is necessary in the analyses. Although expansive research has not confirmed factors significantly predictive of implementation of effective classroom practices by teachers, it is hypothesized that years of implementing PBIS, number of PBIS trainings attended, and observed baseline integrity may mediate the variance of the IBA ratings on criterion observed integrity. Based on correlational analyses, baseline treatment integrity was the only variable significantly related to post-treatment integrity. Therefore, this variable was entered into the first model of the analysis before the predictor variable was entered into the second model. Statistics to examine assumptions regarding independent sampling, homoscedasticity, multicollinearity, and normal distribution of scores were analyzed before running further analyses (Cohen, 2008, Chapter 9). The researcher examined the following variables in determining significant findings: R , R squared change, R^2 ,

model fit, *Durbin-Watson*, collinearity diagnostics, residual value plots, *F*, and *b*-values. After review of these statistics, all assumptions were met.

Predictor Variable

The variable of prominent interest in this study was obtained from the IBA. Average IBA scores served as the predictor variable. Following baseline integrity, each teacher's average score on the IBA was entered in a second block. Specifically, the researcher examined the amount of variance the IBA contributes towards treatment integrity scores.

Criterion Variables

Direct observations of average treatment integrity served as the criterion variables. Six regression analyses were conducted to investigate predictive quality on overall integrity as well as on each behavioral component. For example, each score on post-training integrity for expectations, precorrections, praise, error corrections, and praise:reprimand ratio was entered as an outcome variable and examined under separate regression analyses.

CHAPTER 3 RESULTS

Classwide Components Integrity

A review of the responses on both pre-training and post-training integrity revealed a broad range of integrity scores for each component across teachers, as demonstrated in Table 2. For total pre-training integrity, the range of scores of integrity were 0.50–8.0 ($M = 4.64$, $SD = 1.73$). For total post-training integrity, the range of scores of integrity were 0–8.5 ($M = 4.9$, $SD = 1.94$). Average scores across each component were fairly consistent before and after exposure to the PBIS training. When examining across the observed components, the lowest average implementation was on the praise:reprimand ratio followed by use of behavior-specific praise. The highest average was on use of appropriate error corrections. This was consistent before and after exposure to training.

Table 2. Average Integrity Ratings

<u>Ratings Before Training</u>		
Component	<i>M</i>	<i>SD</i>
Expectations	1.43	0.77
Precorrections	0.96	0.57
Praise	0.69	0.80
Error Corrections	1.51	0.45
Praise:Reprimand	0.06	0.20
Total	4.64	1.73

<u>Ratings After Training</u>		
Component	<i>M</i>	<i>SD</i>
Expectations	1.40	0.77
Precorrections	1.19	0.71
Praise	0.76	0.82
Error Corrections	1.47	0.51
Praise:Reprimand	0.09	0.23
Total	4.90	1.94

Note. Response options: 0 (Not at All); 1 (Somewhat); 2 (Completely); $N = 35$

Responses on the IBA

Frequency of responding was analyzed across the ratings on the IBA. The lowest average score on the IBA Total Score was two while the highest average score was seven ($M = 5.95$, $SD = .96$). Scores were further analyzed by isolating the subscales of Self-Efficacy and Outcome Expectations, and similar ranges were found. The lowest average score on Self-Efficacy was two and the highest was seven ($M = 5.97$, $SD = .97$). On Outcome Expectations, the lowest average score was also two and the highest was seven ($M = 5.89$, $SD = 1.00$).

Correlations between PBIS Experience, IBA Ratings, and Integrity

Results from correlational analyses can be found in Table 3. Although non-significant, when examining for relationships between prior PBIS experience with post-training integrity, a small, negative relationship with total integrity was found ($r = -.25$).

Table 3. Correlations Among Previous PBIS Experience, Ratings on IBA, and Integrity

PBIS Experience	Post-Training Integrity Ratings					
	Total	Expectations	Precorrections	Praise	Error Corrections	Praise: Reprimand
Years in PBIS School	-.248	-.099	-.195	-.223	-.144	-.053
Number of PBIS Trainings	-.248	-.072	-.273	-.228	-.220	-.086
Average Pre-Training Integrity	.824**	.465**	.583**	.643**	.500**	.211
Total IBA	-.033	.038	-.229	.004	.071	.127
Self-Efficacy	-.046	.040	-.242	-.019	.071	.137
Outcome Expectations	.015	.023	-.156	.086	.065	.077

**Correlation is significant at $p < .01$ (2-tailed); *Correlation is significant at $p < .05$. $N = 35$

When assessing each classwide PBIS component independently, nonsignificant, negative relationships were found between each component and previous PBIS experience. Additionally, IBA Total scores did not have a significant relationship with post-training integrity ($r = -.03$) and demonstrated a small, negative relationship with implementation of classwide PBIS. As with previous analyses, IBA scores were also examined by Self-Efficacy and Outcome Expectations subscales, which yielded similarly nonsignificant results ($r = -.05$; $r = .02$, respectively). The strongest, and only significant, relationship with post-training integrity was pre-training integrity (r range: .211–.824). These findings were consistent across specific components of classwide PBIS.

Predicting Use of Classwide PBIS

Correlational analyses supported the theory that previous behavior predicts future behavior; therefore, average pre-training integrity was entered into the regression analyses as a control variable. A total of six regression analyses were conducted, results can be found in Table 4. The control variable was average pre-training integrity for the respective outcome component. For example, for predicting use of defining and posting expectations in the classroom, researchers entered average pre-training use of expectations in the classroom into the first model before including IBA total score.

First, total integrity was examined. In the first step, pre-training integrity accounted for a significant amount of variance in post-training integrity, $R = .82$, $F(1, 33) = 69.81$, $p < .001$. The results of the second model indicated that pre-training total integrity and the IBA Total Score accounted for 68.2% of the variance ($R = .82$, $F(2, 32) = 34.36$, $p < .001$). Although both models were significant, the total score on the IBA did not contribute a significant amount of variance in the second step, $\Delta R^2 = .003$, $p = .570$, therefore, the first model was a better predictor.

Additionally, the standardized beta coefficient was a nonsignificant but negative number, $\beta = -.06$, demonstrating that as the unit of total integrity increased, the unit of IBA Total Score decreased.

Although these results yielded nonsignificant findings, further statistical analyses were conducted on individual components to identify if scores on the IBA could predict changes in isolated behaviors related to classwide PBIS. First, the researcher examined if scores on the IBA could predict behavior change related to establishing and posting well-defined expectations in the classroom. Pre-training integrity scores for expectations was entered in Step 1, and as found previously, accounted for a significant amount of variance in post-training integrity related to expectations, $R = .78$, $F(1, 33) = 49.81$, $p < .001$. When the IBA score was entered in Step 2, the model continued to be significant ($R = .78$, $F(2, 32) = 25.28$, $p < .001$); however, IBA did not account for a significant amount of variance in the second step, $\Delta R^2 = .011$, $p = .350$. The standardized beta coefficient of the IBA Total Score was also nonsignificant in this analysis, but did demonstrate another negative unit, $\beta = -.10$.

Next, the researcher examined if scores on the IBA could predict behavior change related to providing behavioral precorrections to the class or specific children. Again, pre-training integrity scores for precorrections were entered into Step 1 of the model. Similar to previous results, these integrity scores accounted for a large amount of variance in post-training precorrections behavior, $R = .58$, $F(1, 33) = 16.86$, $p < .001$, in the first model.

Table 4. Hierarchical Multiple Regression Analysis Predicting Behavior From Self-Efficacy and Outcome Expectations

Predictor	Classwide Components Integrity											
	Total		Expectations		Precorrections		Praise		Error Corrections		Praise: Reprimand	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.679		.601		.338		.706		.301		.139	
Control Variable		.824***		.776***		.581***		.840***		.548***		.372*
Step 2	.003		.011		.001		.003		.011		.053	
Control Variable		.826***		.779***		.589***		.840***		.541***		.343*
IBA Total Score		-.057		-.104		.031		.057		.105		.231
Total R^2	.682		.612		.339		.710		.312		.191	
Total R^2_{adj}	.662		.588		.298		.691		.269		.141	

Note. Control variable was the average pre-training integrity for the respective component. Standardized β coefficients are shown as each variable was entered. ΔR^2 represents the additional R^2 associated with each variable as entered into the model.

$N = 35$; * $p < .05$, ** $p < .01$, *** $p < .001$.

Although the second model was also significant when IBA Total Score was entered ($R = .58$, $F(2, 32) = 49.81$, $p < .001$), the variable did not account for a large amount of significance, $\Delta R^2 = .001$, $p = .836$, and was removed from the model. Results from the regression analyses examining if the IBA Total Score predicted use of behavior-specific praise yielded similar findings. Observed integrity before training accounted for a significant amount of variance in praise behavior, $R = .84$, $F(1, 33) = 79.35$, $p < .001$. Although the second model was also significant ($R = .84$, $F(2, 32) = 39.08$, $p < .001$) the IBA Total Score demonstrated a nonsignificant contribution ($\Delta R^2 = .003$, $p = .56$). When examining predictors of use of error corrections, observed integrity of the error corrections before the training was the only significant contributor in the first model, $R = .55$, $F(1, 33) = 14.18$, $p < .001$, while total score on the IBA did not contribute significant variance ($\Delta R^2 = .011$, $p = .48$) in the second model including both variables, $R = .56$, $F(2, 32) = 7.24$, $p < .01$.

Lastly, the researcher used similar analyses to examine the predictive power of IBA Total Score on use of the recommended praise:reprimand ratio (4:1). In the first model, observed integrity was a significant contributor of variance to the model, $R = .37$, $F(1, 33) = 5.31$, $p < .05$. When both variables were entered in the model, a large amount of variance was accounted for, $R = .44$, $F(2, 32) = 3.79$, $p < .05$. Additionally, the standardized beta size of the IBA was moderate, $\beta = .23$. However, change statistics are nonsignificant, with the IBA Total Score contributing 5% of variance, $p = .158$.

CHAPTER 4 DISCUSSION

Measuring treatment integrity and predicting future behavior are vital in the area of consultation. The purpose of the current study was to validate the IBA and to identify if factors intended to measure self-efficacy and outcome expectations can predict teacher behavior. Additionally, the researcher examined other variables related to behavior to identify factors associated with PBIS acceptability and classwide PBIS implementation. As stated previously, it was hypothesized that the IBA Total Score would account for a significant amount of variance in classroom management behaviors, demonstrating its strong predictive validity. Furthermore, it was hypothesized that exposure to PBIS, through in-service trainings and working in a PBIS school, would be related to recommendations for classwide PBIS.

Overall integrity for classwide PBIS was poor, indicating that teachers were not practicing strategies that are recommended by legislations and supported by research. Although average integrity was poor, integrity across components was variable, indicating that likelihood of implementation may be dependent on the specific behavior required for each PBIS component. For example, mean derivations of use of appropriate expectations in the classroom were somewhat to completely evident. This information supports that teachers, on average, are displaying their classroom expectations that align with PBIS strategies. Additionally, use of error corrections was somewhat to completely evident during the observations. This means that, on average, teachers were mostly using the recommended method for responding to inappropriate behavior to majority of disruptions in their classroom.

One surprising result was found for the use of behavior-specific praise. Although this strategy is highly recommended and supported by research, it was minimally to not-at-all observed, regardless of its least intrusive qualities. As a result, the absence of behavior-specific

praise impacted the praise:reprimand score, which was the lowest rated component. These ratings indicate that, on average, teachers were using more tactics to target inappropriate behavior than for targeting appropriate behavior. This is alarming in that overreliance on reprimands and under reliance on praise can greatly reduce classroom climate, teacher-student relationships, and likelihood of appropriate behavior occurring in the future (Lewis et al., 2015, Chapter 3; Thompson, 2002). Additionally, the observed behaviors demonstrate that teachers continue to rely on reactive tactics like reprimands without using a similar amount of, or more, proactive strategies such as praise to improve appropriate behavior. Not only is this practice ineffective in enhancing classroom management and instructional time but it also does not support the purpose or intent of PBIS (Reinke et al., 2011; Reinke et al., 2015).

Generally, ratings on the IBA were high, indicating that teachers viewed their own abilities of implementing classwide components of PBIS as adept. High ratings also demonstrated teachers perceived the components as effective in targeting desired behaviors. Other than the single participant whose ratings on both subscales (i.e., ratings of two) were considered extreme outliers, the average score was 5.95. This information indicates that teachers perceive these components as easy to implement and effective, which may be a consequence of an increase in understanding of and research supporting positive behavioral interventions and supports across schools. Teachers participating in this study rated PBIS as highly favorable when considering these two factors, supporting the acceptability of positive behavioral supports in schools. These highly favorable ratings are likely a reflection of the shift from zero-tolerance policies and punishment-based strategies to positive behavioral supports.

Although ratings on the IBA were generally high, indicating positive perspectives of PBIS, they were not correlated with use of these strategies. Therefore, perceived self-efficacy

and outcome expectations were not related to whether or not a teacher would utilize a strategy. This means that although self-efficacy and outcome expectations were high, a teacher may not be more willing to implement the PBIS strategy, which contradicts this study's hypothesis. These findings support previous research that factors of acceptability are not related to actual practice (Sterling-Turner & Watson, 2002).

The intent of the IBA is to measure perceptions that are related to behavior to help guide further efforts in the consultation process. Results from this study reveal, after controlling for past behavior, that teacher ratings on the scale do not predict behavior. In all further analyses, both models were significant; however, IBA Total Scores did not contribute significant predictive power to the model. In fact, standardized beta coefficients yielded from the IBA Total Score indicated some small, negative effects. Although teachers generally rated the components of classwide PBIS as effective and feasible, actual use of these strategies varied enough to yield the amount of variance accounted for by the IBA as nonsignificant. These data do not support the use of the IBA to predict general behavior related to classroom PBIS strategies. Therefore, the measure does not provide useful information related to predicting behavior and allocating more consultative resources, as related to implementation of behavioral strategies specific to this study.

One potential reason for these results is that the IBA may not truly measure self-efficacy and outcome expectations. Although a preliminary factor analysis supports item loading onto the scales and internal consistency, construct validity should be taken into consideration when interpreting what the item responses are measuring (Cronbach and Meehl, 1955). Another interpretation of these results is that other, unmeasured variables, were influencing actual behavior, such as risk perceptions, external constraints, or motivation to act. Research has shown

that high self-efficacy is related to a high probability of the rated behavior; however, literature has also theorized that motivation, access to incentives, and resources may be more influential on behavior (Bandura, 1986). For example, although an individual may have high self-efficacy, if they feel they do not have access to resources and are experiencing external constraints, they are significantly less likely to act. Recommendations are discussed below as to how to address this concern in future research. The results of this investigation demonstrate measuring perceived self-efficacy and outcome expectations is not a good indicator of implementation and behavior change.

Although it was hypothesized that previous exposure to PBIS, through working in schools practicing the strategies or through didactic trainings on the components, was positively related to actual practice of these strategies, results contradicted this idea. Although there were no significant correlations, the years practicing in a school using PBIS had a small, negative relationship with total post-training integrity. Additionally, number of reported PBIS trainings was also negatively related to classwide PBIS behavior. Overall, these results do not support that collecting exposure to PBIS through these variables is a good indicator of actual classroom practice.

Numerous factors may be influencing these findings. First, these nonsignificant correlations may be a result of poor schoolwide integrity of the PBIS. Teachers may report that they work in a school using PBIS, but may have not received the proper training to effectively implement and promote of these strategies. They may therefore be unfamiliar with appropriate strategies in their classrooms. Although schools fit inclusion criteria and used at least two or several of the schoolwide PBIS recommendations, there may be a gap between systems-wide techniques and classroom-level strategies. These findings are supported by research that

compared school-wide implementation to teacher-level implementation and found lower implementation of classwide practice despite high integrity on the SET or other measures of school-wide implementation (Reinke et al., 2013). One possible cause is the lack of clarity in special education law regarding positive behavioral strategies specific to the classroom, which can impact teacher use of such techniques. Another potential cause may be the lack of resources allocated to promote use of PBIS strategies in the classroom settings as compared to in the nonclassroom settings.

Additionally, these findings may be an outcome of poor in-service trainings. Although teachers reported attending numerous in-service trainings on PBIS, discussion of classwide PBIS and teacher-level strategies may be absent during these trainings. Some general topics may be discussed, as most teachers were able to report familiarity with PBIS, but it is unclear as to how much material was obtained from the national PBIS website on teacher-level strategies and how much was provided. Although this study did not examine quality of trainings, if use of effective instructional strategies and supports to promote generalization are absent from current trainings, adding them would likely increase effective implementation (Sterling-Turner et al., 2001). Quality of trainings alone may not suffice and may require active strategies to increase generalization and sustainability in the classroom setting such as classroom coaches and implementation planning.

The only variable that was significantly associated with post-training behavior was observed integrity before training. In every model entered, pre-treatment integrity was the only significant predictor of post-treatment integrity. This is supported by various studies that previous behavior is directly related to future behavior (Ouellette & Wood, 1998). When searching for indicators of future behavior, directly observing current behavior was the best

method. This means that, out of all of the factors, teachers were likely to implement the strategy similar to their previous behavior, independent of their perceived self-efficacy and outcome expectations and even after exposure to training of effective methods. Teachers may not be accurate reporters of their own abilities, as demonstrated by Noell and colleagues (2005); therefore, direct observations serve as the most supported indicator of behavior.

Implications for Consultation

Recall that the hypothesis for the primary research question was that self-efficacy and outcome expectations would significantly predict teacher behavior. Although results do not support the primary hypothesis, information obtained from this study has direct implications for continued research and practice in this area. When providing trainings to teachers, a systems-level consultant should address concerns specific to classroom-level PBIS practices.

Additionally, it is recommended that the resources being utilized within the school to promote use of PBIS strategies in the nonclassroom setting should be utilized similarly to promote use of strategies in the classroom setting. Supported or promising strategies, such as classroom coaches or implementation planning, may help supplement high-quality trainings to ensure adaptation of these strategies in the classroom.

When presenting behavioral strategies to a consultee within the consultation framework, a consultant should not rely on self-report measures, like the IBA, to predict future behavior. Instead, the consultant should continue to directly measure behavior from the teacher and use this information as an indicator of future resistance. Additionally, measuring baseline integrity will help guide the allocation of resources spent on an individual consultee. Despite the IBA's inability to account for behavior change, it may be useful as a measure of acceptability in the consultation process for other strategies not examined in this study. Administering the scale

throughout the process may allow the consultant to review any changes in self-reported perceptions of the intervention, and responses can be addressed with the consultee when evaluating the intervention. However, it is not recommended to consultants to solely rely on these self reports, as results from this study disagree with the IBA's predictive intent.

This study did not support perceptions of self-efficacy and effectiveness as predictive of teacher behavior. Several studies sought to identify factors influencing behavior and include perception of the problem behavior, intervention complexity and clarity, actual intent to implement strategies, school support and individual resources. However, research remains limited on the predictive validity of these factors, and further research is needed. Nevertheless, there is literature that supports the use of other approaches to predict behavior change and address alternative variables associated with resistance. When attempting to motivate future behavior of adults, promising proactive strategies include action and coping planning (Hagermoser Sanetti & Kratochwill, 2009b). Additionally, when targeting behavior change in the teacher consultee, one of the most effective reactive approaches is performance feedback (Noell et al., 2005). Giving teachers individualized feedback for their observed behavior may be the most effective strategy, yet this study did not seek to confirm this finding. Overall, the IBA is not a replacement for observed treatment integrity, although it may still be useful in the process with individual consultees.

Limitations

The factors detailed below may limit generalizability of findings. First, the size of the participant sample was small. This could contribute to some loss of power on the regression analysis, although correlation coefficients corroborated the regression findings. It is important to note that increasing the sample size may also increase Type I error.

Second, the sample was limited to two school districts in southeastern Louisiana, where unique factors to this area may have confounded outcome variables. For example, these areas were impacted by a recent natural disaster, which could reduce the number of school resources and increase teacher stress. Additionally, the special education law these districts abide by may differ from other state laws when discussing PBIS. This special education law briefly discusses the importance of implementing positive behavioral strategies in the school but does not provide detail.

Another factor to consider is the utility of the researcher-created integrity measure. Considering this measure collected the outcome variable, it is vital to ensure this measure did an appropriate job in obtaining all available response opportunities, also referred to as range in behavior. For example, other studies yielding significant predictive power between self-efficacy and teacher practices utilized frequency counts (Reinke et al., 2013; Reinke et al., 2015) to obtain a broad range in practices. The current measure demonstrated appropriate IOA to support its operationalized behaviors for the components checklist. However, this study relied on a 3-point rating system that may have aggregated some of the individual teacher variability, thus influencing the results.

Additionally, although care was taken to allow honesty in reporting, each teacher may have been influenced by social desirability response bias. This phenomenon, which impacts many psychological studies, denotes that respondents are likely to answer how they perceive they should answer, regardless of their true feelings, to appear favorable (Van de Mortel, 2008). Since PBIS is required in these districts and is something continuously suggested to teachers, they may have felt influenced to report in high favor of PBIS even if they do not necessarily feel that way.

Future Directions

This is the first study examining these particular variables, and future research is encouraged to corroborate or diverge from these findings. However, the following modifications are recommended to ensure the highest quality in research. First, the scale's technical adequacy should be thoroughly examined. For example, the IBA should be compared with another measure of self-efficacy and outcome expectations to measure concurrent validity. If possible, the IBA should also be compared with ratings on an alternative measure not purported to measure self-efficacy and outcome expectations. This will allow confirmation of the divergent validity with other factors related to acceptability. Furthermore, an item should be included along with the IBA to measure intent to implement the strategies (*"I will use these strategies"*), which is not typically included in intervention rating questionnaires. As another addition to examining the utility of this measure, researchers should also examine the IBA's predictive qualities of domain-specific behavior. The current study examined a broad range of outcome behaviors generally associated with classwide PBIS. Future studies should examine the IBA's validity on domain-specific behaviors such as integrity on more specialized interventions, like a token economy or check-in/check-out, or an isolated, specific strategy within the broad framework of PBIS, such as frequency of behavior-specific praise.

In addition, researchers should collect data related to problem behavior in the class. It is possible that the frequency and severity of problem behavior may be a possible moderator between the IBA Total Score and post-training integrity. It is possible that higher levels of problem behavior may influence post-training integrity or higher ratings on the IBA Total Score.

Finally, this study did not seek to intervene or change behavior as that would introduce additional, influential variables; however, it is recommended to measure other variables that may

be related to behavior change as discussed earlier, given the paucity in applied research measuring integrity. Factors that are also purported to have predictive power may include motivation to implement, perceived need, and perception of resources (Hagermoser Sanetti & Kratochwill, 2009a).

Identifying factors related to teacher practices in the classroom is an important area for future research. Specifically, future research should emphasize the use of applied approaches examining teacher perceptions related to implementation and whether or not these variables impact future behavior and positive outcomes. Information related to these findings will help schools and consultants identify teachers, or other consultees, that need additional support, thus contributing to an effective allocation of resources. Using this current study and previous research findings as an initial direction, future studies should continue to examine measures intending to identify such variables and their predictive qualities towards future behavior.

REFERENCES

- Armitage, C. J., & Conner, M. (2000). *Social cognition models and health behavior: A structured Review. Psychology and Health, 15*, 173-189.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1986). Social foundations of thought and action: A social cognitive perspective. *Englewood Cliffs, NJ: Princeton-Hall*.
- Barrett, S. B., Bradshaw, C. P., & Lewis-Palmer, T. (2008). Maryland statewide PBIS initiative systems, evaluation, and next steps. *Journal of Positive Behavior Interventions, 10*(2), 105-114.
- Bear, G.G. (2015). Preventive and classroom-based strategies. In E. Emmer & E. Sabornie (Eds.), *Handbook of Classroom Management* (pp.15-39). New York: Taylor & Francis.
- Berrin, F. K. (1968). *General and social systems*. New Brunswick, NJ: Rutgers University Press.
- Bogler, R., & Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teaching and teacher education, 20*(3), 277-289.
- Bradshaw, C. P., Koth, C. W., Bevans, K. B., Ialongo, N., & Leaf, P. J. (2008). The impact of School-Wide Positive Behavioral Interventions and Supports (PBIS) on the organizational health of elementary schools. *School Psychology Quarterly, 23*(4), 462.
- Bradshaw, C. P., Koth, C. W., Thornton, L. A., & Leaf, P. J. (2009). Altering school climate through school-wide Positive Behavioral Interventions and Supports: Findings from a group-randomized effectiveness trial. *Prevention science, 10*(2), 100-115.
- Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of schoolwide positive behavioral interventions and supports on student outcomes results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions, 12*(3), 133-148.
- Broidy, L. M., Nagin, D. S., Tremblay, R. E., Bates, J. E., Brame, B., Dodge, K. A., Fergusson, D., Horwood, J. L., Loeber, R., Laird, R., & Lynam, D. R. (2003). Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: a six-site, cross-national study. *Developmental Psychology, 39*(2), 222.
- Brophy, J. (1981). Teacher praise: A functional analysis. *Review of Educational Research, 51* (1), 5-32.
- Brophy, J. (2006). History of research on classroom management. In C. M. Evertson & C. S. Weinstein (Eds.), *Handbook of Classroom Management* (pp.17-43). Mahwah, NJ: Lawrence Erlbaum Associates.

- Bruhn, A. L., Hirsch, S. E., & Lloyd, J. W. (2015). Treatment Integrity in School-Wide Programs: A Review of the Literature (1993–2012). *Journal of Primary Prevention, 36*(5), 335-349.
- Campbell, F. A., & Ramey, C. T. (1994). Effects of early intervention on intellectual and academic achievement: a follow-up study of children from low-income families. *Child development, 65*(2), 684-698.
- Caprara, G. V., Barbaranelli, C., Pastorelli, C., Bandura, A., & Zimbardo, P. G. (2000). Prosocial foundations of children's academic achievement. *Psychological Science, 11*(4), 302-306.
- Caputi, M., Lecce, S., Pagnin, A., & Banerjee, R. (2012). Longitudinal effects of theory of mind on later peer relations: the role of prosocial behavior. *Developmental Psychology, 48*(1), 257.
- Childs, K.E., Kincaid, D. & George, H.P. (2011). The Revised School-Wide PBS Benchmarks of Quality (BoQ). *OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports*. Website: [http://www.pbis.org/evaluation/evaluation_briefs/mar_11_\(1\).aspx](http://www.pbis.org/evaluation/evaluation_briefs/mar_11_(1).aspx)
- Clunies-Ross, P., Little, E., & Kienhuis, M. (2008). Self-reported and actual use of proactive and reactive classroom management strategies and their relationship with teacher stress and student behavior. *Educational Psychology, 28*(6), 693-710.
- Cohen, L. M., McCarthy, D. M., Brown, S. A., & Myers, M. G. (2002). Negative affect combines with smoking outcome expectancies to predict smoking behavior over time. *Psychology of Addictive Behaviors, 16*(2), 91.
- Connor, C.M. (2013). Commentary on two classroom observations systems: Moving toward a shared understanding of effective teaching. *School Psychology Quarterly, 28*(4), 342-346.
- Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied behavior analysis* (2nd ed.). Upper Saddle River, NJ: Prentice-Hall, Inc.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological bulletin, 52*(4), 281.
- De Pry, R. L., & Sugai, G. (2002). The effect of active supervision and pre-correction on minor behavioral incidents in a sixth grade general education classroom. *Journal of Behavioral Education, 11*(4), 255-267.
- Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology, 41*(3-4), 327-350.
- Eccles, M. P., & Mittman, B. S. (2006). Welcome to implementation science. *Implementation Science, 1*(1), 1-3.

- Eckert, T. L., & Hintze, J. M. (2000). Behavioral conceptions and applications of acceptability: Issues related to service delivery and research methodology. *School Psychology Quarterly, 15*(2), 123.
- Emmer, E. T., & Stough, L. M. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educational Psychologist, 36*(2), 103-112.
- Elliott, S. N. (1988). Acceptability of behavioral treatments: Review of variables that influence treatment selection. *Professional Psychology: Research and Practice, 19*(1), 68.
- Erchul, W. P., & Martens, B. K. (2010). *School consultation: Conceptual and empirical bases of practice*. Springer Science & Business Media.
- Evertson, C.M., & Weinstein, C. S. (2006) *Handbook of classroom management: Research, practice, and contemporary issues*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Every Student Succeeds Act of 2015, 1177 U.S.C. § 180
- Farkas, M. S., Simonsen, B., Migdole, S., Donovan, M. E., Clemens, K., & Cicchese, V. (2012). Schoolwide positive behavior support in an alternative school setting an evaluation of fidelity, outcomes, and social validity of tier 1 implementation. *Journal of Emotional and Behavioral Disorders, 20*(4), 275-288
- Fallon, L. M., McCarthy, S. R., & Sanetti, L. M. H. (2014). School-wide positive behavior support (SWPBS) in the classroom: Assessing perceived challenges to consistent implementation in Connecticut schools. *Education and Treatment of Children, 37*(1), 1-24.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2013). G*Power Version 3.1.7 [computer software]. Universität Kiel, Germany. Retrieved from <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/download-and-register>.
- Fiske, K. E. (2008). Treatment integrity of school-based behavior analytic interventions: A review of the research. *Behavior Analysis in Practice, 1*(2), 19.
- Flannery, K. B., Frank, J. L., Kato, M. M., Doren, B., & Fenning, P. (2013). Implementing schoolwide positive behavior support in high school settings: Analysis of eight high schools. *The High School Journal, 96*(4), 267-282.
- Forman, S. G., Shapiro, E. S., Coddling, R. S., Gonzales, J. E., Reddy, L. A., Rosenfield, S. A., Hagermoser Sanetti, L. M., & Stoiber, K. C. (2013). Implementation science and school psychology. *School Psychology Quarterly, 28*(2), 77.
- Fox, L., Dunlap, G., & Powell, D. (2002). Young children with challenging behavior issues and considerations for behavior support. *Journal of Positive Behavior Interventions, 4*(4), 208-217.

- George, H. P., & Childs, K. E. (2012). Evaluating implementation of Schoolwide Behavior Support: Are we doing it well? *Preventing School Failure: Alternative Education for Children and Youth*, 56(4), 197-206.
- Gettinger, M., & Fischer, C. (2015). Early childhood education classroom management. In E. Emmer & E. Sabornie (Eds.), *Handbook of Classroom Management* (pp.141-166). New York: Taylor & Francis.
- Greenberg, M. T., Domitrovich, C. E., Graczyk, P. A., & Zins, J. E. (2005). The study of implementation in school-based preventive interventions: Theory, research, and practice. *Promotion of mental health and prevention of mental and behavior disorders*, 3.
- Gresham, F. M. (1989). Assessment of treatment integrity in school consultation and prereferral intervention. *School Psychology Review*, 18, 37–50.
- Gresham, F. M. (2009). Evolution of the treatment integrity concept: Current status and future directions. *School Psychology Review*, 38(4), 533-541.
- Gresham, F. M., Gansle, K. A., & Noell, G. H. (1993). Treatment integrity in applied behavior analysis with children. *Journal of Applied Behavior Analysis*, 26(2), 257-263.
- Gresham, F. M., Gansle, K. A., Noell, G. H., & Cohen, S. (1993). Treatment integrity of school-based behavioral intervention studies: 1980–1990. *School Psychology Review*.
- Hagermoser Sanetti, L. M., Dobey, L. M., & Gritter, K. L. (2012). Treatment integrity of interventions with children in the Journal of Positive Behavior Interventions from 1999 to 2009. *Journal of Positive Behavior Interventions*, 14(1), 29–46
- Hagermoser Sanetti, L. M. H., Dobey, L. M., & Gallucci, J. (2014). Treatment integrity of interventions with children in *School Psychology International* from 1995-2010. *School Psychology International*, 35 (4), 370-383.
- Hagermoser Sanetti, L. M. H., Gritter, K. L., & Dobey, L. M. (2011). Treatment integrity of interventions with children in the school psychology literature from 1995 to 2008. *School Psychology Review*, 40(1), 72.
- Hagermoser Sanetti, L. M. H., & Kratochwill, T. R. (2009a). Toward developing a science of treatment integrity: Introduction to the special series. *School Psychology Review*, 38(4), 445.
- Hagermoser Sanetti, L. & Kratochwill, T. R. (2009b). Treatment integrity assessment in the schools: An evaluation of the Treatment Integrity Planning Protocol. *School Psychology Quarterly*, 24, 24 – 35.
- Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: causal relationships and underlying mechanisms. *Psychological Bulletin*, 111(1), 127.

- Hiralall, A. S., & Martens, B. K. (1998). Teaching classroom management skills to preschool staff: The effects of scripted instructional sequences on teacher and student behavior. *School Psychology Quarterly*, 13(2), 94.
- Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology*, 105(3), 774.
- Horner, R. H., Sugai, G., & Anderson, C. M. (2010). Examining the evidence base for school-wide positive behavior support. *Focus on Exceptional Children*, 42(8), 1-14.
- Horner, R. H., Sugai, G., & Lewis, T. (2015). Is school-wide positive behavior support an evidence-based practice? Retrieved April 21, 2016, from <http://www.pbismaryland.org/documents/Evidence%20base%20for%20SWPBS%2009-22-07%20GS.pdf>
- Horner, R. H., Todd, A. W., Lewis-Palmer, T., Irvin, L. K., Sugai, G., & Boland, J. B. (2004). The school-wide evaluation tool (SET) a research instrument for assessing school-wide positive behavior support. *Journal of Positive Behavior Interventions*, 6(1), 3-12.
- Hsiao, H. C., Tu, Y. L., Chang, J. C., & Chen, S. C. (2011). The influence of teachers' self-efficacy on innovative work behavior. In *International Conference on Social Science and Humanity IPEDR* (Vol. 5, pp. 233-237).
- IBM Corp. Released 2016. IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp
- Individuals with Disabilities Education Act (20 U.S.C. 1400)
- Janz, N. K. & Becker, M. H. (1984). The health belief model: A decade later. *Health Education & Behavior*, 11(1), 1-47.
- Jeffrey, J. L., McCurdy, B. L., Ewing, S., & Polis, D. (2009). Classwide PBIS for students with EBD: Initial evaluation of an integrity tool. *Education and Treatment of Children*, 32(4), 537-550.
- Keller-Margulis, M. A. (2012). Fidelity of implementation framework: A critical need for response to intervention models. *Psychology in the Schools*, 49(4), 342-352.
- Kelly, J.F. & Greene, M.C. (2014). Where there's a will there's a way: A longitudinal investigation of the interplay between recovery motivation and self-efficacy in predicting treatment outcome. *Psychology of Addictive Behaviors*, 28(3), 928-934.
- Kelm, J. L., & McIntosh, K. (2012). Effects of school-wide positive behavior support on teacher self-efficacy. *Psychology in the Schools*, 49(2), 137-147.
- Kern, L. & Clemens, N. H. (2007). Antecedent strategies to promote appropriate classroom behavior. *Psychology in the Schools*, 44(1), 65-75.

- Kern, L., & Manz, P. (2004). A look at current validity issues of school-wide behavior support. *Behavioral Disorders*, 47-59.
- Kincaid, D., Childs, K., & George, H. (March, 2010). School-wide Benchmarks of Quality (Revised). Unpublished instrument. USF, Tampa, Florida.
- Künsting, J., Neuber, V., & Lipowsky, F. (2016). Teacher self-efficacy as a long-term predictor of instructional quality in the classroom. *European Journal of Psychology of Education*, 31(3), 299-322. doi:10.1007/s10212-015-0272-7
- La Paro, K. M., & Pianta, R. C. (2003). CLASS: Classroom assessment scoring system. *Charlottesville: University of Virginia*.
- La Paro, K. M., Pianta, R. C., & Stuhlman, M. (2004). The classroom assessment scoring system: Findings from the prekindergarten year. *The Elementary School Journal*, 409-426.
- LeLaurin, K., & Risley, T. R. (1972). The organization of day-care environments: 'zone' versus 'man-to-man' staff assignments. *Journal of Applied Behavior Analysis*, 5(3), 225-232.
- Lewis, T. J., Barrett, S., Sugai, G., & Horner, R. H. (2010). Blueprint for schoolwide positive behavior support training and professional development. *National Technical Assistance Center on Positive Behavior Interventions and Support: Washington, DC*.
- Lewis, T.J., Mitchell, B.S., Trussell, R., & Newcomer, L. (2015). School-wide positive behavior supports. In E. Emmer & E. Sabornie (Eds.), *Handbook of Classroom Management* (pp.40-59). New York: Taylor & Francis.
- Lippke, S., & Plotnikoff, R. C. (2014). Testing two principles of the Health Action Process Approach in individuals with type 2 diabetes. *Health Psychology*, 33(1), 77.
- Lippke, S., Ziegelmann, J. P., & Schwarzer, R. (2004). Initiation and maintenance of physical exercise: Stage-specific effects of a planning intervention. *Research in Sports Medicine*, 12, 221-240.
- Little, E., & Hudson, A. (1998). Conduct problems and treatment across home and school: A review of the literature. *Behavior Change*, 15(04), 213-227.
- Long, A. C. J., Sanetti, L. M. H., & Neugebauer, S. (2012, February). *Validating the implementation intention and self-efficacy measure*. Poster presented at the Annual Convention of the National Association of School Psychologists, Philadelphia, PA.
- Mace, A. B., Shapiro, E. S., & Mace, F. C. (1998). Effects of warning stimuli for reinforcer withdrawal and task onset on self-injury. *Journal of Applied Behavior Analysis*, 31(4), 679-682.
- Matheson, A. S., & Shriver, M. D. (2005). Training teachers to give effective commands: Effects on student compliance and academic behaviors. *School Psychology Review*, 34(2), 202.

- Mathews, S., McIntosh, K., Frank, J. L., & May, S. L. (2013). Critical features predicting sustained implementation of school-wide positive behavioral interventions and supports. *Journal of Positive Behavior Interventions, 16*(3), 168-178.
- May, C., & Finch, T. (2009). Implementing, embedding, and integrating practices: An outline of normalization process theory. *Sociology, 43*(3), 535-554.
- McIntosh, K., Predy, L. K., Upreti, G., Hume, A. E., Turri, M. G., & Mathews, S. (2014). Perceptions of contextual features related to implementation and sustainability of school-wide positive behavior support. *Journal of Positive Behavior Interventions, 16*(1), 31-43.
- McIntyre, L. L., Gresham, F. M., DiGennaro, F. D., & Reed, D. D. (2007). Treatment integrity of school-based interventions with children in the Journal of Applied Behavior Analysis 1991–2005. *Journal of Applied Behavior Analysis, 40*(4), 659-672.
- Meng, P. M., McIntosh, K., Claassen, J., & Hoselton, R. (2016) Does implementation of SWPBIS enhance sustainability of specific programs, such as Playworks? (Issue Brief No. 23) Washington DC: Office of Special Education Programs Technical Assistance Center. Retrieved from <http://www.pbis.org/evaluation/evaluation-briefs/sustainability-of-programs>.
- Nelson, J.R., Martella, R., & Marchand-Martella, N. (2002). Maximizing student learning: The effects of a comprehensive school-based program for preventing problem behaviors. *Journal of Emotional and Behavioral Disorders, 10*, 136-148
- Newton, J. S., Horner, R. H., Algozzine, B., Todd, A. W., & Algozzine, K. (2012). A randomized wait-list controlled analysis of the implementation integrity of team-initiated problem solving processes. *Journal of School Psychology, 50*(4), 421-441.
- Nigg, C. R., Allegrante, J. P., & Ory, M. (2002). Theory-comparison and multiple-behavior research: common themes advancing health behavior research. *Health Education Research, 17*(5), 670-679.
- No Child Left Behind Act of 2001, 20 U.S.C. § 6319 (2008).
- Noell, G. H., Witt, J. C., Slider, N. J., & Connell, J. E. (2005). Treatment implementation following behavioral consultation in schools: A comparison of three follow-up strategies. *School Psychology Review, 34*(1), 87.
- Ouellette, J. A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological bulletin, 124*(1), 54.
- Pianta, R., La Paro, K. M., & Hamre, B. K. (2008). *Classroom assessment scoring system manual: K–3*. Baltimore, MD: Brookes.

- Peisner-Feinberg, E. S., & Burchinal, M. R. (1997). Relations between preschool children's child-care experiences and concurrent development: The Cost, Quality, and Outcomes Study. *Merrill-Palmer Quarterly*, 451-477.
- Peterson, L., Homer, A. L., & Wonderlich, S. A. (1982). The integrity of independent variables in behavior analysis. *Journal of applied behavior analysis*, 15(4), 477-492.
- Price, M., & Anderson, P. L. (2012). Outcome expectancy as a predictor of treatment response in cognitive behavioral therapy for public speaking fears within social anxiety disorder. *Psychotherapy*, 49(2), 173.
- Reddy, L. A., Dudek, C. M., Fabiano, G. A., & Peters, S. (2015). Measuring teacher self-report on classroom practices: Construct validity and reliability of the Classroom Strategies Scale–Teacher Form. *School Psychology Quarterly*, 30(4), 513.
- Reddy, L. A., Fabiano, G. A., & Jimerson, S. R. (2013). Assessment of general education teachers' Tier I classroom practices: Contemporary science, practice, and policy. *School Psychology Quarterly*, 28(4), 273.
- Reinke, W. M., Herman, K. C., & Sprick, R. (2011). *Motivational interviewing for effective classroom management: The classroom check-up*. New York: Guilford Press.
- Reinke, W. M., Herman, K. C., & Stormont, M. (2013). Classroom-level positive behavior supports in schools implementing SW-PBIS identifying areas for enhancement. *Journal of Positive Behavior Interventions*, 15(1), 39-50.
- Reinke, W. M., Lewis-Palmer, T., & Merrell, K. (2008). The classroom check-up: A classwide teacher consultation model for increasing praise and decreasing disruptive behavior. *School Psychology Review*, 37(3), 315.
- Reinke, W. M., Stormont, M., Herman, K. C., Wachsmuth, S., & Newcomer, L. (2015). The Brief Classroom Interaction Observation–Revised: An observation system to inform and increase teacher use of universal classroom management practices. *Journal of Positive Behavior Interventions*, 17(3), 159-169.
- Robbins, J. R., & Gutkin, T. B. (1994). Consultee and client remedial and preventive outcomes following consultation: Some mixed empirical results and directions for future researchers. *Journal of Educational and Psychological Consultation*, 5(2), 149-167.
- Rohrbach, L. A., Grana, R., Sussman, S., & Valente, T. W. (2006). TYPE II translation transporting prevention interventions from research to real-world settings. *Evaluation & the Health Professions*, 29(3), 302-333.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: The Free Press.
- Sanetti, L. M., Kratochwill, T. R., Collier-Meek, M. A., & Long, A. C. J. (2014). *Planning Realistic Implementation and Maintenance by Educators*. Connecticut.

- Sanetti, L. M., Kratochwill, T. R., & Long, A. C. (2013). Applying adult behavior change theory to support mediator-based intervention implementation. *School Psychology Quarterly*, 28(1), 47.
- Sanetti, L. M. H., Long, A. C. J., Neugebauer, S. R., & Kratochwill, T. R. (2012). *Implementation Beliefs Assessment*. Storrs, CT: University of Connecticut.
- Schaeffer, C. M., Petras, H., Ialongo, N., Masyn, K. E., Hubbard, S., Poduska, J., & Kellam, S. (2006). A comparison of girls' and boys' aggressive-disruptive behavior trajectories across elementary school: prediction to young adult antisocial outcomes. *Journal of Consulting and Clinical Psychology*, 74(3), 500.
- Schwab, Y., & Elias, M. J. (2015). From compliance to responsibility: Social-emotional learning and classroom management. In E. Emmer & E. Sabornie (Eds.), *Handbook of Classroom Management* (pp. 94-115). New York: Taylor & Francis.
- Schwarzer, R., & Renner, B. (2000). Social-cognitive predictors of health behavior: action self-efficacy and coping self-efficacy. *Health Psychology*, 19(5), 487.
- Simonsen, B., Fairbanks, S., Briesch, A., & Myers, D. (2008). Evidence-based practices in classroom management: Considerations for research to practice. *Education and Treatment of Children*, 31(3), 351-380.
- Simonsen, B., & Myers, D. (2014). *Classwide positive behavior interventions and supports: A guide to proactive classroom management*. New York: Guilford Publications.
- Skinner, B.A. (1953). *Science and human behavior*. New York: MacMillan.
- Skinner, B. F. (1969). *Contingencies of reinforcement: A theoretical analysis*. New York, NY: Appleton-Century-Crofts.
- Slovinec D'Angelo, M. E., Pelletier, L. G., Reid, R. D., & Huta, V. (2014). The roles of self-efficacy and motivation in the prediction of short-and long-term adherence to exercise among patients with coronary heart disease. *Health Psychology*, 33(11), 1344.
- Stephanou, G., Gkavras, G., & Doulkeridou, M. (2013). The role of teachers' self-and collective-efficacy beliefs on their job satisfaction and experienced emotions in school. *Psychology*, 4(03), 268.
- Sterling-Turner, H. E., & Watson, T. S. (2002). An analog investigation of the relationship between treatment acceptability and treatment integrity. *Journal of Behavioral Education*, 11(1), 39-50.
- Sterling-Turner, H. E., Watson, T. S., Wildmon, M., Watkins, C., & Little, E. (2001). Investigating the relationship between training type and treatment integrity. *School Psychology Quarterly*, 16(1), 56.

- Stormshak, E. A., Bierman, K. L., Bruschi, C., Dodge, K. A., & Coie, J. D. (1999). The relation between behavior problems and peer preference in different classroom contexts. *Child Development, 70*(1), 169-182.
- Sugai, G., & Horner, R. R. (2006). A promising approach for expanding and sustaining school-wide positive behavior support. *School Psychology Review, 35*(2), 245.
- Sugai, G., Horner, R. H., & Lewis-Palmer, T. (2002a). *Positive behavior support: Team Implementation Checklists (Version 2.2)*. Eugene: University of Oregon, Educational & Community Supports.
- Sugai, G., Horner, R., & Lewis-Palmer, T. (2002b). *Coaches' Checklist*. Eugene: Educational & Community Supports, University of Oregon.
- Sugai, G., Horner, R., & Todd, A. (2000). *PBIS Self-Assessment Survey 2.0*. Eugene, OR: Educational and Community Supports.
- Sugai, G., Lewis-Palmer, T., Todd, A., & Horner, R. (2005). *School-wide Evaluation Tool (SET)*. Eugene, OR: Educational and Community Supports.
- Sutherland, K. S., Alder, N., & Gunter, P. L. (2003). The effect of varying rates of opportunities to respond to academic requests on the classroom behavior of students with EBD. *Journal of Emotional and Behavioral Disorders, 11*(4), 239-248.
- Sutherland, K. S., Wehby, J. H., & Copeland, S. R. (2000). Effect of varying rates of behavior-specific praise on the on-task behavior of students with EBD. *Journal of Emotional and Behavioral Disorders, 8*(1), 2-8.
- Thompson, R. (2002). The roots of school readiness in social and emotional development. *The Kauffman Early Education Exchange, 1*, 8-29.
- Van de Mortel, T. F. (2008). Faking it: social desirability response bias in self-report research. *Australian Journal of Advanced Nursing, The, 25*(4), 40.
- Waas, G. A., & Anderson, G. P. (1991). Outcome expectancy and treatment acceptability: Perceptions of school-based interventions. *Professional Psychology: Research and Practice, 22*(2), 149.
- Waasdorp, T., Bradshaw, C., & Leaf, P., (2012) The Impact of School-wide Positive Behavioral Interventions and Supports on Bullying and Peer Rejection: A Randomized Controlled Effectiveness Trial. *Archive of Pediatric Adolescent Medicine. 166*(2): 149-156.
- Wheldall, K., & Lam, Y. Y. (1987). Rows versus Tables. II. The Effects of Two Classroom Seating Arrangements on Classroom Disruption Rate, On-task Behavior and Teacher Behavior in Three Special School Classes. *Educational Psychology, 7*(4), 303-312.

- Wilson, S. J., & Lipsey, M. W. (2007). School-based interventions for aggressive and disruptive behavior: Update of a meta-analysis. *American Journal of Preventive Medicine*, 33(2), S130-S143.
- Witt, J. C., VanDerHeyden, A. M., & Gilbertson, D. (2004). Troubleshooting behavioral interventions: A systematic process for finding and eliminating problems. *School Psychology Review*, 33(3), 363.

APPENDIX A: INCLUSION CRITERIA CHECKLIST

Inclusion Criteria Checklist for Schools

Please indicate whether the following variables were evident, based on data obtained from direct observation or administrator reports. Schools are included if one component is evident during observation.

PBIS Component

Evident: Check 'yes' or 'no'

Behavioral expectations are defined and taught. This can include visibly posting them in the hallways.

YES

No

Reward system for appropriate behavior is established.

YES

No

Clearly defined consequences for problem behavior is established.

YES

No

Differentiated instruction for behavior is provided.

YES

No

Continuous collection and use of data for decision-making. Team established to make data-based decisions.

YES

No

Universal screening for behavior support is utilized.

YES

No

APPENDIX B: DEMOGRAPHICS FORM

Demographics Form

1. What is the name of the school in which you work?: _____
2. What grade level(s) do you currently teach? _____
3. What subject(s) do you teach?: _____
4. What is the educational setting of your classroom (e.g., general ed, special ed)?:

5. How many academic years (Fall/Spring = 1 year) have you been working at your current school?:

6. How many academic years (Fall/Spring = 1 year) years have you taught in any public or private school?: _____
7. Sex (choose one): Male Female
8. Primary Ethnic identity (choose one):
 - African American
 - Asian American
 - White, Non-Hispanic
 - Hispanic or Latino
 - Native American
 - Other (please specify): _____

Positive Behavior Intervention and Supports (PBIS) is a prevention and intervention framework using research-based practices in schools to provide a continuum of supports to students to promote appropriate behavior.

9. How many years have you worked in a school(s) implementing Positive Behavior Intervention and Supports?:

10. Please state the number of in-service trainings or professional development services you have received focusing on PBIS during your teaching experience:

Please indicate your room number: _____

Please include the tentative time ranges you complete direct instruction of academic material in your classroom: (this is to help planning for observations)

Please indicate the one-hour times you would be available to attend the classroom strategies training:

APPENDIX C: OBSERVED TREATMENT INTEGRITY FORM

Intervention Component	Implemented		
	0	1	2
<p>Observe the teacher during an instructional activity for 30 minutes and complete this form.</p>			
<p>1. The teacher has an established set of classroom expectations.</p> <p>a. Rules are clearly defined and positively stated referring to behavioral expectations</p> <p>b. Rules are posted and visible to all students</p>	<p>Classroom rules are not posted or visible</p>	<p><u>All</u> classroom rules are posted and visible</p>	<p><u>All</u> classroom rules are posted, visible <u>and</u> positively stated</p>
<p>2. The teacher reviews and prompts for expectations.</p> <p>a. For each activity, the teacher provides explicit information regarding behavioral expectations for context.</p> <p>i. Prompts may be visual or verbal</p> <p>ii. Occurs before each transition to another academic or behavioral activity before a behavior occurs</p> <p>iii. Excludes review of activity instructions or error corrections after a misbehavior</p> <p>b. The teacher provides examples of behavioral performance aligning with activity expectations.</p>	<p>Did <u>not</u> review behavioral expectations for activity</p>	<p>Reviewed behavioral expectations before a transition but did <u>not</u> review some behavioral examples or nonexamples</p>	<p>Reviewed behavioral expectations before a transition <u>and</u> provided some examples or nonexamples of behavioral performance</p>
<p>3. The teacher acknowledges appropriate behavior by</p> <p>a. Providing verbal or nonverbal feedback</p> <p>b. Naming the specific behavior</p> <p>c. Providing feedback immediately after the behavior</p> <p>d. Delivering in a genuine tone</p>	<p><u>Rarely</u> (0-3 times) provided specific and immediate feedback for appropriate behavior</p>	<p><u>Sometimes</u> (4-7 times) provided specific <u>and</u> immediate feedback for appropriate behavior</p>	<p><u>Often</u> (8 times) provided specific <u>and</u> immediate feedback for appropriate behavior</p>
<p>4. The teacher responds to minor rule violations or inappropriate behavior by</p>	<p>Did not respond to rule violations</p>	<p>Provided error corrections to <u>several</u> (<70%) minor</p>	<p>Acknowledged <u>most</u> (>70%) minor rule</p>

<p>a. Providing a brief, specific statement following the occurrence of an undesired behavior that specifies what the child should do differently in the future (i.e., error correction)</p> <p>b. Providing feedback immediately after the behavior</p> <p>c. Delivering in a calm tone</p>	<p>with error corrections; Used harsh reprimands ('SHHHH', Raised voice, Sarcasm)</p>	<p>rule violations in a calm, immediate, specific manner</p>	<p>violations with error corrections in a calm, immediate, specific manner</p>
<p>Observer:</p> <p>Tally the number of observed praise for appropriate behaviors</p> <p>1. _____/Minutes Observed = Rate of Responding (%)</p> <p>Tally the number of reprimands (verbal or nonverbal feedback indicating disapproval for a behavior either harshly or calmly) or error corrections</p> <p>2. _____/Minutes Observed = Rate of Responding (%)</p> <p>Ratio: _____: _____ then simplify _____: _____ (Praise Counts) (Reprimand Counts)</p>	<p>Praise:Reprimand Ratio is 1:1 or less</p>	<p>Praise:Reprimand Ratio is between 2:1 and 3:1</p>	<p>Praise:Reprimand Ratio is 4:1 or greater</p>
<p><i>For office use only</i></p> <p>Column Total</p> <p>Overall Total:</p>			<p>(Out of Applicable Components)</p>

APPENDIX D: PBIS TRAINING PROCEDURAL INTEGRITY FORM

PBIS Classwide Training Procedural Integrity

Date: Rater:	PBIS Component	Implemented	
	Trainee Observing:	0	1
	1. Presenter reviews PBIS framework <ul style="list-style-type: none"> a. Schoolwide approach b. Emphasize teaching and acknowledging positive behaviors c. Tiered Framework <ul style="list-style-type: none"> i. Universal = classroom, nonclassroom d. Classroom Components <ul style="list-style-type: none"> i. 5 recommendations 		
	2. Presenter discusses establishing set of classroom expectations. <ul style="list-style-type: none"> a. Select 3-5 rules that are clearly defined and positively stated referring to behavioral expectations b. Rules are posted and visible to all students 		
	3. Presenter discusses methods of teaching, reviewing, and prompting for behavioral expectations <ul style="list-style-type: none"> a. Teach: provides explicit information regarding behavioral expectations for context. b. Prompt: reviews behavioral expectations before entering an activity <ul style="list-style-type: none"> i. Review Examples ii. Completes a civity for creating expectations (not required) 		
	4. Presenter discusses monitoring and reinforcing behavioral expectations <ul style="list-style-type: none"> a. Reviews methods to acknowledge appropriate behavior <ul style="list-style-type: none"> i. Providing verbal or nonverbal feedback ii. Naming the specific behavior iii. Providing feedback immediately after the behavior iv. Delivering in a genuine tone b. Completes a civity for praise (required) 		

PBIS Classwide Training Procedural Integrity

	0	1
<p>5. Presenter discusses methods for responding to minor rule violations or inappropriate behavior</p> <ul style="list-style-type: none"> a. Reviews ineffectiveness of reprimands b. Reviews characteristics of effective error corrections <ul style="list-style-type: none"> i. Providing a brief, specific statement following the occurrence of an undesired behavior that specifies what the child should do differently in the future (i.e., error correction) ii. Providing feedback immediately after the behavior iii. Delivering in a calm tone c. Completes a activity for error corrections (required) 		
<p>At the end Deliver IBA to each teacher and collect Script</p> <p><i>Thank you so much for attending this review of some strategies you can incorporate into your classroom. We would now like you to complete a short survey thinking about these strategies when answering each item. So, the first item states 'as a result of this intervention, the students will perform better in school' you will think of as a result of these PBIS classroom strategies. Please answer honestly, responses will not be reviewed with anyone in the school. We will also be conducting two more observations and that will be the end of the study. If you have any questions, please contact Sarah Metallo (contact info on next slide).</i></p>	<p>Please check here when you complete:</p>	
<p><i>For office use only</i></p> <p style="text-align: right;">Column Total</p>	÷	5
<p style="text-align: right;">Overall Total:</p>		

APPENDIX E: IMPLEMENTATION BELIEFS ASSESSMENT AND SCORING GUIDE

Implementation Beliefs Assessment

Student name: _____ Implementer name: _____ Date: _____

Thank you for taking the time to complete the Implementation Beliefs Assessment. The Implementation Beliefs Assessment consists of 19 statements about implementation of school-based interventions. Please consider each statement with regard to your own implementation and rate the extent to which you agree or disagree by circling a number on a scale of 1 to 7. The qualification associated with each number is written above each number on the next page. For example, circling "1" means that you completely disagree with the statement as it applies to you, circling "7" means you completely agree with the statement as it applies to you, and circling 4 means you neither agree nor disagree with the statement as it applies to you.

	Completely disagree	Mostly disagree	Moderately disagree	Neither agree nor disagree	Moderately agree	Mostly agree	Completely agree
Implementation Beliefs Assessment							
1. As a result of this intervention, the student(s) will perform better in school.	1	2	3	4	5	6	7
2. I believe I can maintain this intervention for an extended period of time.	1	2	3	4	5	6	7
3. I can implement this intervention as long as needed.	1	2	3	4	5	6	7
4. The student(s)' performance will improve as a result of using this intervention.	1	2	3	4	5	6	7
5. I can figure out how to restart this intervention if implementation is disrupted.	1	2	3	4	5	6	7
6. I have the ability to implement each component of this intervention.	1	2	3	4	5	6	7
7. I can resume this intervention after a scheduled break.	1	2	3	4	5	6	7
8. I have the ability to start implementing this intervention after a break.	1	2	3	4	5	6	7
9. I can stick to implementing all steps of this intervention.	1	2	3	4	5	6	7
10. I am prepared to implement this intervention.	1	2	3	4	5	6	7
11. I believe I can implement this intervention.	1	2	3	4	5	6	7
12. I can sustain intervention implementation.	1	2	3	4	5	6	7
13. I can continue implementing this intervention regardless of obstacles/challenges.	1	2	3	4	5	6	7
14. I can restart implementation of this intervention efficiently after an interruption.	1	2	3	4	5	6	7
15. I have the necessary skills to carry out this intervention.	1	2	3	4	5	6	7
16. This intervention will work.	1	2	3	4	5	6	7
17. This intervention will benefit the student(s).	1	2	3	4	5	6	7
18. I am capable of resuming implementation of this intervention.	1	2	3	4	5	6	7
19. I know the steps that will allow me to implement this intervention effectively.	1	2	3	4	5	6	7

Implementation Beliefs Assessment (con't)

Student name:

Implementer name:

Date:

Outcome Expectations: one's perceptions of the outcomes or likely consequences of changing their behavior
4. The student's performance will improve as a result of using this intervention.
17. This intervention will benefit the student.
16. This intervention will work.
1. As a result of this intervention, the student will perform better in school.
OUTCOME EXPECTATIONS AVERAGE [(SUM of above items / 4) x 100]
Self Efficacy: one's belief in his or her ability to deliver the intervention to the student in the short- and long-term
Implementation Self-Efficacy: one's confidence in being capable of performing a difficult or novel behavior.
11. I believe I can implement this intervention.
6. I have the ability to implement each component of this intervention.
19. I know the steps that will allow me to implement this intervention effectively.
15. I have the necessary skills to carry out this intervention.
10. I am prepared to implement this intervention.
Maintenance Self-Efficacy: one's confidence in being capable of keeping up a difficult behavior over time
3. I can implement this intervention as long as needed.
9. I can stick to implementing all steps of this intervention.
12. I can sustain intervention implementation.
2. I believe I can maintain this intervention for an extended period of time.
13. I can continue implementing this intervention regardless of obstacles/challenges.
Recovery Self-efficacy: one's confidence in being capable of resuming a difficult behavior after an interruption
14. I can restart implementation of this intervention efficiently after an interruption.
7. I can resume this intervention after a scheduled break.
5. I can figure out how to restart this intervention if implementation is disrupted.
18. I am capable of resuming implementation of this intervention.
8. I have the ability to start implementing this intervention after a break.
SELF-EFFICACY AVERAGE [(SUM of above self-efficacy items / 15) x 100]
IMPLEMENTATION BELIEFS ASSESSMENT TOTAL SCORE [(SUM of all items / 19) x 100]

APPENDIX F: IRB APPROVAL DOCUMENTATION AND CONSENT FORMS



ACTION ON EXEMPTION APPROVAL REQUEST

TO: Sarah Metallo
Psychology

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: July 8, 2016

RE: IRB# E9983

TITLE: Evaluating the Predictive Validity of the Implementation Beliefs Assessment on Classwide Management Components

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8882
F: 225.578.5983
irb@lsu.edu | lsu.edu/irb

New Protocol/Modification/Continuation: New Protocol

Review Date: 7/7/2016

Approved Disapproved

Approval Date: 7/8/2016 Approval Expiration Date: 7/7/2019

Exemption Category/Paragraph: 1, 2a

Signed Consent Waived?: No

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

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

By: Dennis Landin, Chairman 

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –

Continuing approval is **CONDITIONAL** on:

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

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

ACTION ON EXEMPTION APPROVAL REQUEST



TO: Sarah Metallo
Psychology

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: August 4, 2016

RE: IRB# E9983

TITLE: Evaluating the Predictive Validity of the Implementation Beliefs Assessment on Classwide Management Components

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu | lsu.edu/irb

New Protocol/Modification/Continuation: Modification

Brief Modification Description: Modified integrity form, included two pre-training integrity observations instead of just one, added one more questionnaire for the teachers.

Review date: 7/29/2016

Approved X Disapproved _____

Approval Date: 8/4/2016 Approval Expiration Date: 7/7/2019

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

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

By: Dennis Landin, Chairman 

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

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

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

ACTION ON EXEMPTION APPROVAL REQUEST



TO: Sarah Metallo
Psychology

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: November 8, 2016

RE: IRB# E9983

TITLE: Evaluating the Predictive Validity of the Implementation Beliefs Assessment on Classwide Management Components

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu | lsu.edu/irb

New Protocol/Modification/Continuation: Modification

Brief Modification Description: Extend participant selection from Kindergarten through 5th grade and teachers from districts from West Baton Rouge, Central, and Pointe Coupee school districts.

Review date: 11/3/2016

Approved Disapproved

Approval Date: 11/3/2016 Approval Expiration Date: 7/7/2019

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

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

By: Dennis Landin, Chairman 

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

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

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



ADMINISTRATOR INFORMED CONSENT FORM

We are requesting your approval and support to conduct the study “*Evaluating the Predictive Validity of the Implementation Beliefs Assessment on Classwide Management Components*” at your school. The following sections outline the details of the study.

Purpose of the Study: Given the broad framework of the Positive Behavioral Interventions and Supports (PBIS) model, there remain barriers to its adaptability and implementation in schools. A tool directly linked with a model of behavior change, or implementation, of PBIS components, is the Implementation Beliefs Assessment (IBA), which is administered at pre-implementation phases. The IBA measures self-reported self-efficacy and outcome expectations related to an intervention. This current study seeks to expand the validity of the IBA and investigate its association with implementation of proactive classroom management strategies. Additionally, this study will also measure multicultural practices and teacher psychological variables (e.g., stress, wellbeing, hope) to identify the relationship between these ratings and actual classroom management practices. Teachers will be trained on specific classroom practices and analyses will be conducted to examine treatment integrity, psychological variables and self-reported self-efficacy and outcome expectations in the hopes of identifying factors that may predict actual implementation of PBIS. Data obtained from this study will provide information regarding effective ways of supporting teachers’ implementation of various behavioral interventions.

Inclusion Criteria: Your school must be using recommended strategies associated with Positive Behavioral Interventions and Supports (PBIS). Teachers included in the study are teaching classrooms from Kindergarten through 5th grade across schools in Central, Pointe Coupee, and West and East Baton Rouge School districts.

Exclusion Criteria: Paraprofessionals, substitute teachers or teaching assistants are unable to be included in the study.

Description of the Study: We are requesting approval to conduct a study on a pre-implementation measure: the IBA. With your support, we will request participation in the study from teachers at your school. We will provide teachers with consent forms and discuss the study procedures before the study begins. Since researchers will not be interacting directly with students and will not be collecting any student-level data, parental permission and student assent will not be collected. At the same time as review of consent, teachers will be asked to complete a 10-item demographics form following agreement to participate as well as a 74-item rating scale of their multicultural practices, wellbeing and distress. A researcher will then observe each teacher during an instructional activity for two, thirty-minute observations. The researcher will schedule an hour-long training program on classroom components aligning with PBIS for teachers to attend. In the training, each teacher will be asked to complete the IBA. Within the next 7 business days, the researcher will conduct two, thirty-minute observations of each teachers’ instructional practice. The observations will occur during the teacher’s regular classroom routine. Completing the training

and questionnaires will take approximately 90 minutes of each teacher's time over the course of the semester. We may ask from you a location to conduct the training and equipment to display our PowerPoint. All other material will be provided by the researcher. Frank Gresham, Ph.D., and Sarah Metallo, M.A., of the Department of Psychology at Louisiana State University (LSU) are conducting this research.

Benefits: By participating in this study, your school will be contributing to the evaluation and identification of factors predicting current practices, integrity and behavior change. Findings will be useful in providing insight into effective supports for teachers when implementing an intervention. As a practical benefit to your school, teachers participating in the study will be exposed to evidence-based factors associated with PBIS in the classroom during a training, at no cost to them or the school. In addition, to show our appreciation for teachers' time, effort, and assistance in our research efforts, all participating teachers will also be entered into a raffle to win one of five available \$15 gift cards. In order to be eligible for this compensation, teachers must participate until the end of the study.

Risks: There are minimal risks associated with participation in this study. Your teachers may feel uncomfortable completing self-report measures, but researchers will use methods to maintain confidentiality in reporting. Additionally, teachers may feel uncomfortable during classroom observations, but researchers will use methods to minimize all possible risks or distractions and enter each classroom quietly and respectfully.

Right to Refuse: Participation in this study is voluntary and your school will only be included if you agree to participate. You may choose to withdraw your school's participation at any time without affecting your relationship with your school or with LSU.

Privacy: Data will be kept completely confidential through the use of ID numbers, so that data cannot be linked to names. Results of this study may be published, but no names or identifying information will be included.

If you have any questions about this study, you may contact Dr. Frank Gresham at (225) 578-4663 or Sarah Metallo at (803) 431-6492, Monday-Friday 8:00 a.m. – 4:30 p.m. If you have any questions about participants' rights or other concerns, please contact Dennis Landin, Chairman, Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb.

By signing this form, I acknowledge that I have read and understand the above information. I also acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

PLEASE CIRCLE ONE:

I give approval for teachers and students at my school to participate. YES NO

Name (please print): _____

Signature: _____ Date: _____

Phone Number: _____

Email: _____

(Please provide the email address you are most easily reached at.)



Teacher Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, risks, and benefits of the study and how it will be conducted.

Title of Study: Evaluating the Predictive Validity of the Implementation Beliefs Assessment on Classwide Management Components

Purpose of the Study: You are being asked to participate in a research study investigating the use of a measure to identify factors associated with intervention practices and the identification of psychological traits related to classroom practices. The study involves completion of brief surveys and questionnaires as well as attendance of a professional development session. This study is being conducted across schools in Central, Pointe Coupee, and West and East Baton Rouge School districts. Frank M. Gresham, Ph.D. of the Department of Psychology at LSU is conducting this research and supervising his doctoral students that are involved in this study.

Inclusion Criteria: Your school must be using recommended strategies associated with Positive Behavioral Interventions and Supports (PBIS). Teachers included in the study are teaching classrooms from Kindergarten through 5th grade.

Exclusion Criteria: Paraprofessionals, substitute teachers or teaching assistants are unable to be included in the study.

Study Procedures: You will be asked to complete a demographics form and a teacher questionnaire upon your consent. A researcher will then observe your regular teaching practices for two, thirty-minute instructional activities. We will schedule an hour-long training program on classroom components aligning with PBIS for you to attend. Following the training, you will be asked to complete a 19-item rating scale. Within the next 5-7 school days, the researcher will conduct two, thirty-minute observations of your instructional practice.

Risks: There are minimal risks if you participate in this study; however, we will ensure that any methods we use will reduce any potential risk. You and your students may feel uncomfortable during classroom observations, but researchers will use methods to minimize all possible risks or distractions and enter your classroom quietly.

Benefits: We expect the project to benefit you by providing you with training on evidence-based practices in classroom management to help reduce disruptions and increase instructional time, at no cost to you. Data will guide and contribute to research in understanding ways to support teachers when implementing interventions. After the study is over, the researcher will also be available to provide any additional services you request.

Financial Incentive: Participating in the study will enter you in a drawing to receive one of the five \$15 gift cards to be delivered upon completion of the study.

Confidentiality: Throughout the data collection process, researchers will take the proper precautions to ensure all data collected will be kept confidential. We will use codes assigned for each teacher. Data will remain inaccessible to other teachers or researchers not contributing to the study.

Right to Refuse: At any time throughout the study, you have the right to no longer continue participating. Discontinuation will not affect your relationship with your school or LSU.

Contact Information: If you have any questions pertaining to the study, feel free to contact Sarah Metallo at 803-431-6492 or Frank Gresham, PhD., at 225-578-4663, Monday-Friday 8:30 a.m. – 5:00 p.m.



Signatures

After reviewing the consent form, please sign and return to the researcher. If you have any questions, you may call Sarah Metallo at 803-431-6492 or Frank Gresham, PhD. at 225-578-4663, Monday-Friday 8:30 a.m. – 5:00 p.m. If you have questions regarding your child's rights or other concerns, please contact Dennis Landin, Chairman, Institutional Review Board, 225-578-8692, irb@lsu.edu.

The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators: Sarah Metallo or Frank Gresham, PhD. If I have questions about subjects' rights or other concerns, I can contact Dennis Landin, Chairman of the LSU Institutional Review Board. I agree to participate in this study described above and acknowledge the researchers' obligation to provide me with a copy of this consent form if signed by me.

Please check one:

_____ YES, I will participate in this study and follow all the procedures.

_____ NO, I prefer not to participate in this study.

Date _____

Name (please print) _____

Signature _____

Phone Number _____

Email _____

VITA

Sarah Alexa Metallo, a native of South Carolina, studied psychology and criminal justice at the University of South Carolina and received her bachelor's degree in 2012. While working with at-risk youth in the school system, she became interested in pursuing a degree offering her experience with behavioral and academic interventions delivered in schools. In 2013, she entered graduate school in the Department of Psychology at Louisiana State University. While there, her interests expanded into empowering caregivers to serve children through best practice approaches and providing assessment and intervention across settings. She expects to graduate in August 2018 with her doctorate degree after completion of her accredited internship at Florida State University's Multidisciplinary Center. Following, she will begin a postdoctoral fellowship at the Medical University of South Carolina as a pediatric psychology fellow, where she will continue to pursue her passion for interdisciplinary services, assessment of neurodevelopmental disabilities, and advocacy for children's educational services.