Functional Behavior Assessments and Behavior Intervention Plans:

Training for Teachers of Students with Emotional and Behavioral Disorders

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Functional behavior assessments (FBA) and behavior intervention plans (BIP) are research and evidence-based interventions to address behavior; however, prior research shows teachers in a passive role when conducting FBAs and BIPs along with many misconceptions about their use. In this one group pre and posttest design, 20 individuals (teachers, paraprofessionals, and ancillary staff members) in a center-based setting for students with EBD participated in a modified version of the Basic FBA to BSP Training program. Along with this, their beliefs about behavior was measured pre and posttraining using the Beliefs about Behavior survey (BABS). Results indicated an increase in FBA and BIP knowledge pretraining (50% correct) to posttraining (68% correct) across all participants, an increase in the use of FBAs (pretraining 1 and posttraining 4) and BIPs (pretraining 1 and posttraining 2), and a decrease in student behavior referrals (6.6 referrals per day to 6.1 referrals per day). The training program had little effect on participants beliefs about behavior. Questions regarding building wide behavioral practices showed a positive increase in participant responses from pretraining (55%) to posttraining (68%).

Table of Contents

List of Tables

List of Figures

Preface

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1.0 Introduction

Managing behavior in the classroom is an essential skill for any teacher because of its close ties to academic and social achievement for students in special education (Meyers, Freeman, Simonsen, & Sugai, 2017). The Individuals with Disabilities Education Act (IDEA) states that students with disabilities are to be educated in the least restrictive environment which can be defined as the student with a disability spending the maximum appropriate amount of time with their non-disabled peers (IDEA, 2004). This mandate accompanied by teachers feeling unprepared to manage challenging behaviors (Flower, McKenna, & Haring, 2017) and negative perceptions towards inclusion (Hernandez, Hueck, & Charley, 2016) due to general education teachers having less experience with inclusive strategies, creates a negative situation for students with disabilities, especially those students with emotional and behavior disorders (EBD).

Students with EBD display chronic challenging behaviors that negatively affect the learning environment (Strickland-Cohen, Kennedy, Berg, Bateman, & Horner, 2016; Bradley, Doolittle, & Bartolotta, 2008). These students also face higher dropout rates, have lower grades (Lewis, Jones, Horner, & Sugai, 2010) and are subject to more suspensions and expulsions when compared to peers in other disability categories (Bradley et al., 2008; Kern, Hilt, & Gresham, 2004). The disciplinary actions this population faces are not effective in producing positive long-term results and can further reinforce negative behaviors (Ducharme & Shecter, 2011).

Placement of special education students within educational settings is a very complicated and a highly debatable issue due to federal and state mandates for least restrictive environment. The definition of alternative education can vary widely from state to state. Alternative education settings can be utilized to educate students who are academically advanced or seeking vocational

or technical education, but these alternative settings are used more frequently to educate students with behavioral issues or those at risk of failing (Porowski, O'Conner, Jia, 2014).

According to the U.S. Department of Education, National Center for Education Statistics (2017), in the fall of 2014, across the disability categories of: autism, deaf-blindness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment, an average of 94.8% of students spent some part of their day within the general education setting. The average for students with EBD who spent some amount of time in the general education setting was 82.5%. When examining students educated in a separate school, a residential facility, a private school, homebound or hospital placement, or correctional facility, the average percentage of students with disabilities educated in these settings was 5.1%. Within that 5.1%, 29% were students with EBD. When looking exclusively at the students educated within a correctional facility, those with EBD comprised 60% of the total students within this setting, which was much higher than the second disability category, students with other health impairment, at 12% (U.S. Department of Education, 2017)

There are benefits for inclusion of students with disabilities. Inclusive practices point to increased academic and social skills as opposed to segregating or placing students in alternative education settings (Kurth, Morningstar, & Kozleski, 2014). When students are placed in a more restrictive setting, their chances of moving into a less restrictive educational setting or transiting back to their original educational setting is limited (Hoge, Liaupsin, Umbreit, & Ferro, 2014). With the potential issues surrounding alternative educational settings and the benefits of inclusion, functional behavior assessments (FBAs) and functional behavioral interventions (FBIs) are vital to student success because they place emphasis on the behavior, the environment, and the student

as opposed to solely using the student as the primary cause of the distraction (Ryan, Halsey, & Matthews, 2003).

FBAs are rooted in the theory of operant learning and functionalism which examines the root of behavior through the variables or functions that the behavior may serve, as opposed to solely examining the topography of the behavior (Scott, Alter, & McQuillan, 2010). FBA is a broad term used to describe the process of identifying a behavior, collecting information related to the behavior, and forming a hypothesis about the function or purpose of the behavior based on the information collected. Collecting information for an FBA falls into three general categories: informant interview, direct observation, and systematic manipulation. Informant interview involves interviewing the individual with the problem behavior or other individuals with direct knowledge of the individual with the problem behavior. Direct observation is directly observing the individual with the problem behavior in their natural setting. Systematic manipulation or functional analysis (FA) is where aspects of the environment related or not related to the behavior are actively manipulated to discover the environmental factors that are related to the behavior. FA can be time and energy consuming and conducting one may not be feasible in a school or community setting (O'Neill, Albin, Storey, Horner, & Sprague, 2015). The resulting data from an FBA leads to the creation of a Behavior Intervention Plan or Behavior Support Plan (BIP/BSP), which considers all the data from an FBA and outlines a plan where function-based interventions (FBI) are used to address the behavior. FBIs focus on the purpose of the behavior along with possible solutions (Gable, Park, & Scott, 2014) and are more capable of addressing unwanted behaviors when compared to interventions that are not function-based (Bruni, Drevon, Hixson, Wyse, Corcoran, & Fursa, 2017).

The IDEA (2004) provides general guidelines for the use of FBAs for students in special education. Situations that include a suspension of more than 10 days, movement of a student to a more restrictive environment, or the behavior of the student disrupting the learning environment all warrant the use of an FBA (2004). In addition to this, the IDEA grants much flexibility to state and local education agencies to conduct FBAs when or how to best conduct FBAs which can create confusion within this process.

Although there is confusion surrounding the FBA process, there are FBA training programs that are valuable when it comes to conducting an FBA. The *Basic FBA to BSP Training Program* (Loman, Strickland-Cohen, Borgmeier, & Horner, 2013) have shown to be beneficial in several studies. In a 60-minute function-based intervention pretest – posttest design of both general and special education professionals in various positions there was a significant improvement between pre and posttraining testing. The average increase was 30 percent (Borgmeier, Loman, Hara, & Rodriguez, 2015). In another study related to Basic FBA training, conducted in three phases: the initial Basic FBA training, the measurement of the skills used after training, and the use of functional analysis to assess the FBA results, there was an average increase from pre- to posttraining assessment of nearly 54 percent. FBAs conducted posttraining were also found to be technically adequate and the functional analyses conducted showed that staff members successfully identified motivation and function of the student's problem behavior (Loman & Horner, 2014). Assessment of BSP knowledge from the Basic BSP training showed an increase of 26 percent between pre and posttraining assessments (Strickland-Cohen, & Horner, 2015).

1.1 Statement of Problem

A large gap exists between practice and research when examining the implementation of FBAs in the classroom. In practice, teachers are an integral part of the intervention and training process because teachers choose interventions based on feasibility, personal educational beliefs, and appropriateness for students (Lang et al., 2010); however, research has largely neglected the needs of teachers or other school staff, often not involved in the FBA process, and conducting FBAs in a more natural school environment. Examples include teachers taking a passive role in FBAs, meaning they would assist with some of the data collection, but not the data analysis and would not be included in a discussion regarding the FBA collection tools. Because the FBA process and implementation often falls to the special education teachers in a school setting, training, and understanding of FBA components and procedures is vital (Wood, Drogan, & Janney, 2014; Anderson, Rodriguez, & Campbell, 2015; Allday, Nelson, and Russel, 2011).

Further research points to more teacher struggles and concerns with FBAs because the process is seen as a reactionary measure or only used after problem behaviors occur and one that is highly meticulous and can only be performed by highly trained experts (Scott, Liaupsin, Nelson, & McIntyre, 2005) along with this there is concern about classroom teachers carrying out FBA procedures for students, especially those with EBD, because of the potential complex behaviors that this population displays (Rasheed, Fore, Jones, & Smith, 2012). Added issues pertaining to the use of the FBA process can be seen in one district where the FBA process was not a common practice for students with severe behavior problems and the development of BIPs was for compliance reasons rather than active documents to effectively intervene in the problem behavior (Blood & Neel, 2007).

In a clinical setting, two crucial factors in the use of evidence-based practices are (1) the implementers attitude towards the practice and (2) training (Nelson & Steele, 2007). These principles translate to education, where the teacher's attitudes before implementation of training could assist with addressing aspects of fidelity associated with program implementation along with tracking changes in perceptions over the course of the training (Beets et al., 2008).

Special education teacher's feel that more aggressive and disruptive behavior requires a more restrictive educational placement (Becker, Paternite, & Evans, 2014). In more restrictive settings, such as a center-based program, or a school where every student has an active Individualized Education Plan (IEP), the number of special needs students that are placed in these settings has remained relatively stagnant (Kurth, Morningstar, & Kozleski, 2014) especially when considering students with EBD (McLeskey, Landers, Williamson, & Hoppey, 2012). This could be problematic because students in more restrictive education placements could begin to exhibit an increase in conduct problems or an increase in other maladjusted behaviors due to the placement (Powers, Bierman, & Coffman, 2016).

The findings on potential problems with more restrictive educational settings, when examined with problems related to the use of FBAs, leads to a need for further training of special education teachers within restrictive educational settings, in the FBA process.

1.2 Purpose

The purpose of this study is to train staff members in a center-based program for students with severe EBD in using FBA and BIP techniques. Access to these techniques and training will improve behavior management techniques used within the classroom and building, helping

students gain access to a less restrictive environment with their non-disabled peers. Another purpose is to contribute to the research base on training staff members to implement FBA and BIP techniques in school settings with typical school staff and to help close the gaps that exist between research and practice.

1.3 Research Questions

Using a modified version of the *Basic FBA to BSP Training* (Loman et al., 2013), from pre- to post-training, will the Riverview Institute staff display:

1) An increase in beliefs about behavior that support a functional, or "positive", approach to addressing student problem behavior?

2) An increase in knowledge of FBA and BIP procedures?

3) An increase in use of FBAs and BIPs?

4) A decrease in their number of behavioral referrals?

2.0 Review of Literature

Students in special education struggle in school and FBAs are an effective tool for reducing problem behaviors (Strickland-Cohen et al., 2016; Bradley et al., 2008; Scott et al., 2010; Bruni et al., 2017); however, school staff struggle with creating and implementing FBAs and BIPs. Previous literature reviews have examined this link between FBAs and school staff members. Before the reauthorization of the IDEA in 2004, Ervin, Radford, Bertsch, Piper, Ehrhardt and Poling (2001) conducted a literature review of 100 articles that related to the use of functional assessment in schools between the years 1980 and 1999. It was found that functional assessment was used more frequently with students who were male, with a cognitive impairment, and in the elementary or preschool age range. Most of the functional assessments conducted were in the special education setting and used for disruptive behaviors such as throwing objects or aggression. One of the major conclusions of the review was that ancillary staff and other school personnel may lack the tools and knowledge for conducting a functional assessment in a school setting.

Early childhood practitioners' involvement in the FBA and BIP process was examined in over 30 articles published between 1990 and 2012 (Wood, Drogan, & Janney, 2014). Results of the literature review found that involvement by the practitioner was limited. Practitioners were involved in only half of the articles and worked collaboratively in a role with the researcher. Practitioners would participate by conducting an interview but were not asked to analyze the interview data. The authors pointed to a gap between the involvement of the practitioner and the researcher which could result in the implementation of the FBA and BIP having low fidelity and being ineffective because the researcher was in a more active role than the practitioner. Lack of practitioner involvement in the FBA process is not exclusive to early childhood practitioners.

Anderson, Rodriguez, and Campbell (2015) examined 233 peer-reviewed studies of school-based FBAs for 8th graders or lower, with autism spectrum disorder or a cognitive disability and those at risk of a behavioral disorder. Self-injurious behavior was a targeted behavior for students with ASD or a cognitive disability, while off task behaviors such as defiance, verbal aggression and non-compliance were targeted for typically developing students. The authors found inconsistencies between practice and research, citing that researchers conducted most studies, not teachers. The researcher conducting and overseeing an FBA within a school can cause the FBA to appear more effective, than if a teacher conducted one in a natural classroom setting.

FBA literature reviews have also focused on teacher training and involvement in the process. Allday, Nelson, and Russel (2011) reviewed 28 studies of FBA use in a school and found that teachers participated in data collection for an FBA in a passive fashion significantly more than in an active fashion. In 18% of the studies, it was reported that teachers were not involved in data collection. Most of the studies reported teachers were involved in the intervention and implementation of the FBA; however, 14% of articles did not specify or mention teacher involvement. In terms of training, slightly less than half of the articles reported teacher training. Teacher training in FBA procedures was mentioned in only 43% of the studies. Time involved training teachers was dramatically different from study to study. One study reported a 10-minute training, while another reported a 12-hour training. The average was approximately four hours.

Taken together, the results of the literature reviews suggest there exists a large gap between practice and research when examining the implementation of FBAs in the classroom. Prior studies have focused on the researcher(s) conducting and implementing FBAs in a more controlled environment while also conducting the data analysis. Literature for the areas of teacher involvement and training associated with implementing FBAs effectively and with fidelity needs

to be further examined (Mitchem, Richards, & Wells, 2001; Strickland-Cohen et al., 2016; Rispoli, Neely, Healy, & Gregori, 2016). Additional training in FBAs for teachers and other school staff may help to overcome some of the barriers and gaps that exist within the literature. The purpose of this literature review is to investigate the training models for conducting an FBA. This literature review will address the following research questions:

- What is the effectiveness of FBA training with school staff?
- What components of the training models/materials have been used in research studies?
- Which stakeholders (teachers/administrators/ancillary staff) have been involved as trainees and to what extent?

2.1 Search Procedures

The databases *PsychINFO* and *ERIC* were searched electronically for peer-reviewed and scholarly articles between the years 2004 and 2017. The search was limited to 2004 because of the reauthorization of the IDEA in 2004 which emphasized positive behavioral interventions and required FBAs be conducted if the student is placed in an alternative education setting, suspended for more than 10 days, or their behavior negatively affects their peers (Individuals with Disabilities Education Act, 2004). The terms and combinations used for the search included: *Functional Behavior Assessment*, *training*, *FBA*, *training models*, *teacher education*, *teachers*, *methods*, *implementation*, *train*, and teach**. The result was 1,134 articles. This does not consider duplicate articles within the same database or across databases. Titles and abstracts were read and reviewed for inclusion criteria described below for all 1,134 articles.

2.2 Inclusion Criteria

Studies that were used in this literature review met the following criteria: (a) peer-reviewed journal articles, (b) reported trainee/school staff results of the use of a systematic FBA or component of an FBA training program or curriculum, (c) the focus of the study was to impact school staff knowledge of the FBA process and its components in a classroom setting, kindergarten to twelfth grade, and (d) the training was for teachers, administrators, paraprofessionals, or other school staff that work with students in special education or those at risk for behavioral problems.

Studies were excluded from this literature review if the FBA curriculum or materials used were not explicitly described or named and student data related to the implementation of an FBA or its components was the focus of the training as opposed to the measurement of FBA training on school staff. Studies that focused on FA were excluded because actively manipulating the environment to address a problem behavior may not be viable within the kindergarten to twelfth grade school setting. Studies that focused on the FBA process within a larger positive behavioral support system were also excluded due to the use of FBAs only at specific levels of a typical response to intervention (RTI) diagram. This RTI diagram separates students into three tiers and will commonly only use FBAs for students with the most severe behavior and may also pair it with other behavioral interventions. The total number of articles that met the inclusion criteria identified for further reading was 10 (see Table 1).

2.3 Coding Procedures

The articles were coded into seven areas: (a) setting and classroom demographics (i.e. grade and disability of the student involved if stated); (b) FBA/BIP materials/models/curriculum and time (i.e. materials that were used during training and the time requirements associated with the training); (c) procedures (i.e. steps or subjects covered during the FBA/BIP training materials; (d) measurement tools (i.e. tool(s) that were used to measure the outcomes of the study); (e) outcomes (i.e. results of the FBA/BIP training materials/models/curriculum and the effect that materials had on staff development and ability to implement FBAs/BIPs components); (f) participants of the training (i.e. teachers, administrators, ancillary staff, paraprofessionals); and (g) research design (i.e. non-experimental group design, experimental group design, and single-subject design).

2.4 Participants

Across included studies, there was a total of 615 participants. Most of the participants were special education teachers (*n*=191) or general education teachers (*n*=87), accounting for 45% of all participants. The school or district staff roles of learning specialist (*n*=5), autism specialist (*n*=1), resource room teacher (*n*=1), paraprofessional (*n*=3), librarian (*n*=1), child development specialist (*n*=2), student management specialist (*n*=3), and educational assistant (*n*=11) comprised the lowest number of participants across all studies, accounting for 4% of all participants. Graduate students (*n*=126) and those in nonspecific roles (*n*=37) comprised the greatest number of participants after accounting for all teachers, 27%. Other ancillary staff within a school or district:

school psychologist (*n*=31), counselor (*n*=55), administrator (*n*=39), and behavior specialist (*n*=22), comprised 24% of all participants.

There were three different classroom levels (kindergarten, elementary, middle) where the studies took place. One study (10%) took place across all three settings (Strickland-Cohen et al., 2016). One study (10%) took place across two settings, an elementary and middle school or classroom (Crone, Hawken, & Bergstrom, 2007). Five studies (50%) used only one setting, a kindergarten program (Opartkiattikul, Arthur-Kelly, & Dempsey, 2016) or an elementary school or classroom (Strickland-Cohen & Horner, 2015; Bethune & Wood, 2013; Walker & Snell, 2017; Loman & Horner, 2014). Two studies (20%) (Fallon, Zhang, & Kim, 2011; Bethune & Wood, 2013) did not specify a classroom or school location. One study (10%) was not specific in the description of classroom or school building but stated that the FBA training occurred within 16 buildings in a district (Dukes, Rosenberg, & Brady, 2008). All studies that specified a location occurred in the elementary or middle school level.

Student FBA data as a measure of staff FBA training was collected in four studies (40%) (Strickland-Cohen & Horner, 2015; Walker & Snell, 2017; Bethune & Wood, 2013; Opartkiattikul et al., 2016) for a total of 17 students, all at the elementary level. Of the 17 students, 59% (*n*=10) were at risk for an EBD, 24% (*n*=4) were students with a cognitive impairment, 12% (*n*=2) were students with autism spectrum disorder, and one student (6%) with an intellectual disability along with a speech and language impairment. Crone, Hawken, and Bergstrom (2007) stated that a single-subject design was conducted for three students who received function-based intervention supports post training to analyze the training results; however, the results were not published in the study but were added to an additional study. The authors specified that the exclusion of this

was to focus on the impact of training on school staff rather than on student achievement due to FBA training.

Five of the studies (50%) (Loman & Horner, 2014; Strickland-Cohen et al., 2016; Borgmeier et al., 2015; Fallon et al., 2011; Dukes et al., 2008) did not use student FBA data as a measure of staff FBA training. Additionally, there was no mention of the student population that the participants worked with. These studies focused on school staff or pre-service special education teacher training and the FBA process, not its effect on student behavior.

2.5 Research Design

There were 10 studies examined in the literature review. Of the 10 studies, eight (80%) were group design (Loman & Horner, 2014; Strickland-Cohen & Horner, 2015; Opartkiattikul et al., 2016; Fallon et al., 2011; Borgmeier et al., 2015; Dukes et al., 2008; Strickland-Cohen et al., 2016; Crone et al., 2007) and two (20%) (Walker & Snell, 2017; Bethune & Wood, 2013) were single-subject design. The eight group design studies were categorized into non-experimental group designs (no control group), quasi-experimental group design (control group but not randomly assigned), or experimental group designs (randomized controlled trial).

Of the group design studies (n=8), seven were categorized as non-experimental (Loman & Horner, 2014; Strickland-Cohen & Horner, 2015; Fallon et al., 2011; Strickland-Cohen et al., 2016; Crone et al., 2007; Borgmeier et al., 2015; Opartkiattikul et al., 2016) accounting for 70% of the total studies. One of the group design studies (10%) was quasi-experimental (Dukes et al., 2008). No group design studies were experimental. Further examining the group design studies, five studies (63%) (Loman & Horner, 2014; Strickland-Cohen & Horner, 2015; Borgmeier et al.,

2015; Strickland-Cohen et al., 2016; Crone et al., 2007) utilized a pre and posttest measurement to assess the effectiveness of the training, two studies (25%) (Fallon et al., 2011; Dukes et al., 2008) utilized a posttest measurement only to assess the effectiveness of the training. and one study (13%) (Opartkiattikul et al., 2016) utilized a pre, during, and post intervention measurement to assess the effectiveness of the training.

Both single-subject design studies (Walker & Snell, 2017; Bethune & Wood, 2013) employed a multiple baseline across participants. One study (Bethune & Wood, 2013) was a delayed multiple baseline across participants due to a teacher's absence.

There was a wide range of participant trainees (range 3-291) over the 10 studies. The two largest studies included 291 participants (Borgmeier et al., 2015) and 125 participants (Dukes et al., 2008). Three studies (Opartkiattikul et al., 2016; Bethune & Wood, 2013; Walker & Snell, 2017) included the least number of participants (range 3-4).

2.6 FBA/BIP Training Materials

The studies examined included a variety of training materials that can be categorized into three groups: packaged program materials (i.e. programs with a training manual, explicit steps and direct training, that had been created to address a specific need such as implementing FBIs using the information gathered through an FBA), modified training materials (i.e. programs used in the literature where it is explicitly stated that there has been an adjustment of aspects of the training materials, which could include the modification of a package program), and researcher-developed training (i.e. program materials that extended on previous studies with or without modifications and may have used aspects of several different training materials). Of the 10 studies, four (40%)

utilized packaged program materials (Loman & Horner, 2014; Borgmeier et al., 2015; Strickland-Cohen & Horner, 2015; Strickland-Cohen et al., 2016), two studies (20%) utilized modified training materials (Fallon et al., 2011; Opartkiattikul et al., 2016), four studies (40%) utilized researcher-developed training materials (Crone et al., 2007; Dukes et al., 2008; Bethune & Wood, 2013; Walker & Snell, 2017).

Training procedures did not vary widely across the different types of training materials. Each training started with an overview of an FBA and the definitions of its various components. Along with this, all studies included in their procedures a modeling, roleplaying, or practice activity to help participants utilize FBIs. Each study also focused on using this information to address challenging behavior through live student interaction or within case studies and/or scenarios. Participants played an active role in all the studies meaning they analyzed the data or used FBA information to implement an appropriate FBI. One study (Fallon et al., 2011) had the goal of the construction and implementation of a full FBA, while the rest of the studies focused on using FBA data to develop a BIP or other FBIs to address challenging behavior. Commonly used FBA techniques included observation (Loman & Horner, 2014; Strickland-Cohen & Horner, 2015; Bethune & Wood, 2013) a functional assessment checklist for teachers (Loman & Horner, 2014), team approach (Crone et al., 2007) and a FA (Bethune & Wood, 2013) which was conducted by the researchers to test trainee hypotheses.

Time spent in training varied greatly between studies. The shortest training was 60 minutes (Borgmeier et al., 2015) and the longest training was a college course that was 14 weeks long (Fallon et al., 2011). In one study (Crone et al., 2007) training took place over the entire school year for one cohort and over half of the year for another district within the cohort. The second cohort received their training during two full day workshops. Consultation was provided by the

authors for each cohort on a regular basis for multiple years. Of the studies that explicitly stated the amount of time spent during training (Loman & Horner, 2014; Strickland-Cohen & Horner, 2015; Borgmeier et al., 2015; Walker & Snell, 2017; Dukes et al., 2008; Strickland-Cohen et al., 2016; Bethune & Wood, 2013) the average time spent in training was four hours (range 1-6).

2.7 FBA/BIP Training Measures

Outcomes were measured in four categories: content test, checklist, survey, and observation. Four of the studies (Opartkiattikul et al., 2016; Borgmeier et al., 2015; Dukes et al., 2008; Fallon et al., 2011) utilized only one form of measurement, while the other six (Strickland-Cohen & Horner, 2015; Strickland-Cohen et al., 2016; Walker & Snell, 2017; Crone et al., 2007; Loman & Horner, 2014; Bethune & Wood, 2013) used at least two different measurements. Fifty percent of the studies (*n*=5) used a checklist, 60% (*n*=6) used a test, 40% (*n*=4) used observation, and one study, 10% (*n*=1) used a survey.

The five studies that utilized a pre-and posttest assessment (Loman & Horner, 2014; Strickland-Cohen & Horner, 2015; Borgmeier et al., 2015; Strickland-Cohen et al., 2016; Crone et al., 2007) also used various instruments to measure the effectiveness of the training between tests. Two studies used the FBA Knowledge Assessment (Loman & Horner, 2014; Crone et al., 2007) with one study (Loman & Horner, 2014) also utilizing a procedural adequacy checklist to assess whether school staff could develop technically adequate FBAs and the other study (Crone et al., 2007) used the Individual Systems Evaluation Tool (ISET) to assess whether schools were implementing FBA protocols with fidelity. Two studies used the BSP Knowledge Assessment (Strickland-Cohen & Horner, 2015; Strickland-Cohen et al.) with one using a follow up survey

(Strickland-Cohen et al., 2016) to assess whether training had been utilized and the other (Strickland-Cohen & Horner, 2015) using a BSP critical feature checklist and Contextual Fit rating scale to assess whether school based teams were able to develop and implement BSPs. One study used *Function Based Intervention Training* (Borgmeier et al., 2015) to test the effectiveness of training across the different roles of participants, different training venues, and prior FBA knowledge and experience.

The studies that utilized a single-subject design measured the accuracy of the school staff's ability to implement FBIs using a checklist and observations (Walker & Snell, 2017) and the *Function Based Intervention Procedure Fidelity Checklist* (Bethune & Wood, 2013).

Interviews and a rating scale were used to assess school staff feelings toward implementing FBIs (Opartkiattikul et al., 2016). Course assessments were used to assess graduate students' ability to implement FBAs and BIPs (Fallon et al., 2011) and the experimental group study design by Dukes, Rosenberg, and Brady (2008) used the Survey of Intervention Practices used for Students Exhibiting Challenging Behavior to assess FBA knowledge posttraining.

All studies reported positive outcomes from the trainings. Three studies reported positive significant differences between pre-and posttests (Crone et al., 2007; Borgmeier et al., 2015; Strickland-Cohen et al., 2016;) and one reported a significant difference between trained and untrained groups (Dukes et al., 2008). Two studies reported outcomes including the participants ending the training with knowledge of the core concepts of behavior support plans (Strickland-Cohen & Horner, 2015) or school personnel ending the training with knowledge of how to operationally define a behavior, identify antecedents and find functions of challenging behavior (Loman & Horner, 2014).

The outcomes of the single-subject research designs suggested that workshops along with coaching sessions may be sufficient when teaching paraprofessionals to implement function based interventions (Walker & Snell, 2017), and results indicated a functional relationship between coaching and an increase in accurate implementation of FBIs, along with the ability to generalize training into different areas with similar challenging behaviors (Bethune & Wood, 2013). Outcomes from the Course Assessment measurement demonstrated that FBA and BIP skills can be taught to pre-service teachers (Fallon et al., 2011). Interviews indicated that school staff were more confident when dealing with behavior, became used to the behavior and less frustrated with the student's behavior, understood behavior in a larger context not only occurring between the student and the caregiver(s), and a rating scale indicated that an increase in school staff use of FBA procedures directly after training; however, there was a decrease in their use over a period of time after training (Opartkiattikul et al., 2016).

Out of the 10 studies, two did not include a measurement of social validity (Borgmeier et al., 2015; Dukes et al., 2008). The eight studies that included a social validity measure reported positive results like recommending training to other professionals (Loman & Horner, 2014; Strickland-Cohen & Horner, 2015; Strickland-Cohen et al., 2016), a better understanding of challenging behavior and the importance of using FBAs (Opartkiattikul et al., 2016; Fallon et al., 2011; Bethune & Wood, 2013), or the training was sustainable and effective (Walker & Snell, 2017; Crone et al., 2007).

2.8 Effectiveness of the FBA Training

Each of the studies included positive outcomes from the training as reported from the use of a variety of measurement tools and through the measure of social validity. Significant results were reported through pre-and posttests, observations, checklists, and surveys. This indicates that the success of training can be measured in a variety of ways and in some cases, in multiple ways which helps to strengthen the validity of the findings. The outcomes also suggest that school staff can be taught an array of components associated with FBAs. Pre-and post-testing was the most commonly used measurement of the effectiveness of the training; however, in only one study was there a posttraining measurement survey given weeks after the initial training (Strickland-Cohen et al., 2016) showed that participants continued to use FBA and BIP procedures and created almost as many 15 weeks after the training as they had a year before the training.

2.9 Training Components Used

The studies examined included a variety of training materials that can be categorized into three groups: packaged program materials, modified training materials, and researcher-developed training materials. The materials used suggest that there are a variety of programs and materials that can be used effectively to improve school staff knowledge of the FBA and BIP process. This also suggests that specific materials or curriculums were chosen based on the goals of the research, for example, implementing FBIs based on FBA data as opposed to the construction of a full FBA. When examining the procedures of the curriculums and programs, there are several different procedures that can be used to effectively train school staff in FBA and BIP procedures.

Time spent during trainings was also examined. Within studies that explicitly stated time, the average time spent training was four hours (range 1-6). This illustrates extensive time does not need to be spent in the FBA training course. It should be noted that some studies used consultation after the training, which may have influenced some of the reported positive outcomes.

2.10 Stakeholder Involvement

Participant involvement in the studies was extensive and involved individuals from many different roles within a school. As noted earlier, teachers are an integral part of the FBA process (Lang et al., 2010) and this population being the majority of trainees across all studies was encouraging. This could represent a shift in mentality from the FBA process being one in which is the responsibility of a behavior interventionist or specialist into a more team based approach with the teacher or other school staff member becoming the FBA team leader. Regardless of the position, it was shown that individuals could still increase within their knowledge of the FBA process and actively engage in determining functions of challenging behavior and recommending appropriate interventions to match the function.

Although not explicitly stated, all studies implied that the school staff members were active participants in the training, meaning they were active in both collecting and analyzing data. The researcher(s) would conduct separate checklists and/or FAs to test the fidelity and effectiveness of the FBIs or other FBA components. This represents a shift highlighted in previous literature reviews, where the school staff member was a more of a passive member of the FBA process and would only assist with the collection of data.

Further examination of school staff members, such as teachers and paraprofessionals, working in a team to address the FBA and BIP process could help to respond to issues that exist as outlined in the literature, two of which being an FBA can only be completed by a highly trained expert (Scott, et al., 2005) and teacher have concerns with the FBA and BIP process for students with EBD because of the potentially complex behaviors this population displays (Rasheed et al., 2012).

2.11 Conclusion

This literature review shows that there is a wide variety of effective materials and measures that can be used with school staff in a natural school setting. One area of the literature that needs further consideration is the use of FBA and BIP training programs with students in more restrictive or alternative education settings because the students in these settings may display more complex behaviors (Hoge et al., 2014). To better understand the implementation of programs and the capacity that schools have to implement programs, school staff feelings regarding behavioral interventions are a crucial component. Current research associated with FBA and BIP training does not examine the deeper aspects that may be involved in choosing an intervention, one of the most critical examples is staff members' feelings regarding behavior and behavioral interventions which can be crucial when choosing an effective behavioral intervention (Nelson & Steele, 2007; Lang et al., 2010; Beets et al., 2008).

3.0 Methods

3.1 Setting

Riverview Institute (pseudonym) (RI) is a center-based school, located in the rural Midwest. Due to the goal of the school, which is to transition students back to their local district, the number of students fluctuates throughout the school year. The average number of students in the building and in satellite classrooms in the county over the past five years is 106 students. The average number of staff members in the building and in satellite classrooms in the county over the past five years is 60 individuals. The school provides academic and social, emotional, and behavioral services for students with severe EBD and students with autism spectrum disorder (ASD). The school educates students from kindergarten to twelfth grade. The school also has a certificate of completion classroom for students with an EBD and a cognitive impairment. Students recommended for this classroom are unable to meet the State Merit Curriculum requirements even with extensive academic accommodations. The certificate of completion program is focused on post-secondary living and job skills.

Students are placed at RI when they are unsuccessful at their local district with intensive special education services. RI emphasizes access to academics as dictated by the Common Core State Standards along with social-emotional education. Areas of social-emotional education include: relationship skills with peers and adults, decision making and responsibility, expression and regulation of emotions, and social awareness. The goal of the school is for students to transition back to their local district, into a community-based job skills programs with post high school living activities incorporated, a county career and technical education course such as welding or auto

mechanics, or into other post school programs or activities that are provided by other community agencies.

As a building, RI has not had any FBA or BIP professional development delivered through the district. All knowledge of the FBA and BIP process comes from personal experience which includes but is not limited to college courses or out of district professional development. Currently, RI has one student BIP in place that was developed by the staff who performed the FBA.

During the 2016/17 school year, according to the School Wide Information System (SWIS) data, RI had a total of 1053 behavioral referrals. Of the 1053 referrals, the three largest categories were defiance, accounting for 343 referrals (32.6%, cumulative 32.7%), inappropriate language accounting for 125 referrals (11.9%, cumulative 48.7%), and physical aggression accounting for 454 referrals (43.1%, cumulative 97.4%). When examining seclusion and restraint, there was a total of 35 restraints and 192 seclusions in the entire building. During the 2017/18 school year, RI did not use the SWIS to record behavioral data at the beginning of the year but used it from February 2018 to June 2018. During this time, there was a total of 464 behavioral referrals. Of the 464 referrals, the three largest categories were defiance accounting for 176 referrals (37.9%, cumulative 37.9%), out of bounds accounting for 95 referrals (20.5%, cumulative 78.2%), physical aggression accounting for 90 referrals (19.4%, cumulative 97.6%). When examining seclusion and restraint, there was a total of five restraints and 14 seclusions from February 2018 to June 2018.

3.2 Participants

There are 25 staff members at RI in various roles. Eighteen of the staff members are female (72%) and seven (28%) are male. Examining staff members by role, 11 are teachers (44%), 13 are paraprofessionals (52%), and there is one social worker (4%). When examining staff members by grade level, there are eight staff members that work with all grades, kindergarten to twelfth grade. Of those eight staff members, four (50%) are paraprofessionals, three participants (38%) are teachers, and one is a social worker (12%) who addresses the needs of all students with EBD in the building. There are 17 staff members that work solely at either the high school or elementary and middle school level. Of those 17 staff members, there are eight (47%) that work exclusively in the elementary and middle school classrooms and five individuals (29%) that work exclusively in the high school classrooms. The certificate of completion classrooms consist of four staff members (24%), two staff members at the elementary/middle school level and two at the high school level. The building supervisor was not be included in the reporting of data because the focus was on individuals who work daily with students in the classroom. This also helps to guard against the integrity and fidelity of the study because their help was needed to coordinate materials and training days.

No students directly participated in this study. All student data was passively gathered from the SWIS data. Information in the SWIS includes: the student's name, gender, grade, race, staff member involved, date, time, problem behavior, perceived motivation, and general notes. This study will be looking at only problem behavior and perceived motivation of the behavior as recorded by the staff member.

3.3 Design

This study utilized a mixed method one group pretest and posttest design. This study collected both quantitative and qualitative data. The main source of quantitative data was the pretraining and posttraining tests. Some quantitative data came from survey questions, semi-structured interviews, and artifact analysis. The main source of qualitative data was the surveys and semi-structured interviews. A pretest and posttest design was used to show the changes the participants made over the course of the study from before to after FBA/BIP training in areas related to FBA and BSP knowledge, development, and use.

3.4 Intervention

The intervention in the study was the *Basic FBA to BSP Training* (Loman, et al., 2013). The training contains procedures to train school staff to conduct basic FBAs and BIPs. The procedures are designed for students who exhibit behaviors that are high frequency and require an intervention, such as not following directions, but are not considered dangerous. The program consists of seven modules: defining and understanding behavior, conducting FBA interviews, observing and summarizing behavior, critical features of behavior support plans, building behavior support plans from FBA information, implementation and evaluation planning, and leading a team through the behavior support planning process. The authors recommend that all staff members complete module one, understanding and defining behavior and module four, critical features of

behavior support plans. It is also recommended that team FBA leaders complete all modules. Due to the student population at RI and the experience, knowledge, and training that the staff at RI possess, aspects of all the modules were included in the FBA to BIP training to better address the needs of the students.

The training took place over four half-day training sessions. Each training day was approximately four hours. Training days ended with a task or form that participants would take into their classrooms and begin to address problem behaviors. There were an additional three days between November 2018 and January 2019 with brief afterschool check in sessions over email to address any aspects of the tasks or forms. Data was collected from the end of September 2018 to April 2019.

All trainings included a PowerPoint presentation of the modified materials and a participant guide that accompanied the PowerPoint presentation. The first two trainings included all staff members and the third and fourth trainings included teachers only. This is due to professional development as dictated by the district and the master agreement. The first training started with a combination of the first three modules which is understanding and defining behavior, FBA interviewing, and FBA observation. The training occurred on October 22nd, 2018. The second training, February 19th, 2019, was a combination of the modules on Critical features of BSPs and building BSPs from FBAs. The third training, March 11th, 2019, reviewed Critical features of BSPs and examined implementation and evaluation of the FBA to BIP model. The fourth and final training, May 13th, 2019, examined leading a BIP team and looked at the results of the study. The presentation of the results during the fourth training also served as a demonstration of scholarly practice.

The participants were placed in groups which represent a cross section of demographic information such as position within RI and grade level. The groups will work together on completing several activities within the training including practicing FBA and BIP techniques or filling out forms. New groups were formed for the third and fourth trainings. The interviews were scheduled in late September and early October after obtaining consent from participants. The interviews were conducted in early to mid-October, after the modified Beliefs about Behavior Survey (BABS) was given. Two individuals were randomly chosen from the elementary, middle school, and high school sections of the program. There was a total of six interviews. A social validity measurement was delivered with the posttraining BABS survey given March and April 2019.

Most modules or sections of the training will have a brief pre and posttest. The test was delivered at the beginning of the training to participants and again at the end of the training session. There was a total of four tests given over the first two training sessions. Each test consisted of an average of 9.5 questions (range 7 to 13). All tests included either matching or multiple choice or a combination of the two.

Artifacts were collected from classrooms as the staff members completed them. The artifacts were the forms covered within the training. Not all staff members completed artifacts. In this study, Functional Assessment Checklist for Teachers and Staff (FACTS) was used as an instrument to gather FBA data that led to the BIP (see Appendix A). The FACTS is the FBA procedure tool used in the *Basic FBA to BSP Training*. The FACTS also served as a universal template for all staff members at RI. Information obtained from the FACTS was used to construct the BIP using the Competing Behavior Pathway form (see Appendix B). This form helped staff members to identify intervention strategies used to manipulate the antecedent, prompt, teach, and

reinforce the replacement and desired behavior. This form was used as a universal template for all staff members at RI.

3.5 Measures

Several instruments were used in this study to address the research questions. Data was collected from school staff participants through, BABS, pretraining and posttraining tests, interviews, and artifact collection and analysis.

3.5.1 Beliefs About Behavior Survey (BABS)

The Beliefs about Behavior (Cook, Lyon, Kubergovic, Browning Wright, & Zhang, 2015) is a measurement created by experts in social, emotional and behavior problems for students and multi-tiered systems of support. The experts generated a list of common beliefs that either positively or negatively affect the adoption and implementation of evidence-based practices to address social, emotional, and behavioral problems.

The BABS was modified to better fit the setting, where the focus is on social, emotional and behavior interventions for students. The BABS contained two constructs: teacher beliefs and practices and whole building approaches to behavioral interventions. The BABS asked participants to agree or disagree on a Likert scale. Statements were scored by assigning a number value to different statements on the Likert scale. Pretraining and posttraining results were compared to examine differences (see Appendix C).

3.5.2 Basic FBA Checklist

The *Basic FBA to BSP Training* included a measurement for assessing the technical adequacy of completed FACTS documents. The measurement is broken into two sections, FBA Planning and Critical Elements of the FBA. FBA Planning examines whether the student is a good candidate for a basic FBA. Critical Elements of the FBA examines the thoroughness of the routine analysis leading to a prioritized routine, the interviewee having primary responsibility for the student, the problem behavior being observable and measurable, the antecedent(s), consequence and function being prioritized and described in detail, and the final summary of behavior being clear and based on information found in the FACTS document. The total number of points for the combined sections is 14. Each question asks for a rating of 0 to 2. Two represents a yes to the question or statement being asked, 1 represents a score of somewhat, and 0 represents a no. This measurement fit the study because it aligned with the materials from the *Basic FBA to BSP Training* and was used to assess the technical adequacy of FBAs conducted by the staff posttraining. This measurement also helped to show participant knowledge of FBAs (See Appendix D).

3.5.3 Basic FBA to BSP Checklist

The *Basic FBA to BSP training* includes a measure for assessing the technical adequacy of the Competing Behavior Pathway form used for completing the BIP. The form combines two sections, Critical Elements of the Competing Behavior Pathway and Suggestions for Function-Based Interventions, for a total scale of 22. The 0 to 2 scale score is the same as the measurement for the Basic FBA Checklist. The Critical Elements of the Competing Behavior Pathway examines

the summary of the behavior, the replacement behavior, and the desired behavior in terms of detail, whether it addresses the same function, and is it reasonable and close to expectations of the student's peers. The Suggestions for Function-Based Interventions examines the documentation of the antecedent and interventions to address the antecedent, the steps for teaching both the replacement and desired behaviors, interventions to reinforce and motivate the student to use the replacement and desired behaviors, and strategies to redirect to the replacement behavior and minimize reinforcement of the problem behavior. This measurement fit the study because it directly aligned with the materials presented during the training and helped assess the technical adequacy of the BIPs developed by the staff posttraining. This measurement also helped to show participant knowledge of BIPs (see Appendix E).

3.5.4 Semi-Structured Interviews and Social Validity

The semi-structured interviews were used to go deeper or discover hidden themes from the responses on the BABS, knowledge of the FBA and BIP process, and barriers and enablers within RI that relate to the FBA and BIP process. The interviews were composed of 15 questions. Each of the 15 questions included several probing questions. The interviews provided both qualitative and quantitative data.

The social validity measurement was used to measure staff members feelings about the professional development. The social validity measurement included 12 questions and examined the participants feelings regarding the benefits of the trainings, the forms used within the training, confidence in performing FBAs and BIPs, and opportunities to reflect on teaching practices. There was also a section for participants to write comments if they choose. This provided both qualitative and quantitative data (see Appendix F).

3.5.5 Artifact Collection

Following the first two training sessions, participants had forms to take back to their classroom and begin to use with students. The primary forms used and collected were the FACTS and the Competing Behavior Pathway. FACTS forms were measured for technical adequacy using the Basic FBA Checklist and the Competing Behavior Pathway form technical adequacy was measured using the Basic FBA to BSP Checklist.

3.5.6 Establishing Reliability and Trustworthiness

The data collected from all methods helped view various aspects of the larger questions related to the effectiveness of the program and the participants ability to adopt and utilize the information from the training. The data was triangulated in several ways to represent a more comprehensive picture related to FBA and BIP use within RI. An example of this was the responses from the BABS used along with the information from the interviews, which provided clarity and expansion of beliefs and classroom practices. RI is a school for students with severe EBD and focusing on data related to addressing social, emotional, and behavioral deficits is relevant and appropriate to the setting.

To address research question one, the data sources gathered was the responses to the BABS pretraining and posttraining. Another data source was the semi-structured interviews. These interviews helped to triangulate some of the responses to questions on the BABS. This triangulation helped with reliability of the data. The BABS will be analyzed using Microsoft Excel. Interview responses were coded and analyzed in the program Dedoose. An example of a code that

will came from the interview was the agreement to behavioral terms used in RI and how closely the interviewee feels their definition fits others.

To address research question two, the data sources that were collected are the pretraining and posttraining tests. Individual participant results from these tests were compared to themselves and the data was presented in aggregate. Mean, median, and mode were analyzed.

To address research question three, the data source was to hand count the number of FACTS forms and Competing Behavior Pathway forms completed within the building.

To address research question four, the data source was to examine the number of behavioral referrals entered in the SWIS. Everything that is not a “self-time out” was counted monthly and compared to data from previous years. The monthly average helped to track the effectiveness of the training. The mean, median, and mode was examined.

4.0 Results

Twenty one individuals consented to participate in the study. Results from the administrator were not reported due to their involvement in the professional development, knowledge of the modules, and testing materials. Of the 20 participants, 10 (50%) were teachers, nine (45%) were paraprofessionals, and one (5%) was an ancillary staff member. Five participants (25%) taught students at all education grade levels. Five participants (25%) taught exclusively at the secondary level (grades 9-12). Four participants (20%) taught at the intermediate and secondary level (grades 6-12) for students on a certificate of completion education track. There were 2 participants (10%) who taught at the primary level (grades 1-5), 2 participants (10%) who taught at the primary and intermediate level (grades 5-6), and 2 participants (10%) who taught exclusively at the intermediate level (grades 7-8).

The average number of years of experience at RI across all participants was 8.5 years (range 1 to 18). When examining participant's highest education level, 3 participants (15%) reported a high school diploma, 1 participant (5%) reported an associate degree, 10 participants (50%) reported a bachelor's degree, and 6 participants (30%) reported a master's degree.

The self-reported level of FBA and BIP experience was on a scale from 1 to 10, with 1 being no experience and 10 being very experienced. The average for FBA experience across all participants was 3.9 (range 1-9) and the average for BIP experience was 4.7 (range 1-9) pretraining. The average for FBA experience was 7.75 (range 3-10) and the average for BIP experience was 7.65 (range 3-10) posttraining. Thirteen participants (65%) indicated that they had received previous FBA and BIP training. Within those 13 participants, 7 of the participants (54%) received training in a college course, 4 participants (31%) received training at a prior professional

development session outside of the building, and 2 participants (15%) reported training from a college course and a prior professional development session outside of the building.

4.1 BABS (Modified) Individual Questions

Results of the BABS survey was examined across all participants, participants that had previously received FBA and BIP training, participants that reported the highest and lowest experience with the FBA and BIP procedures, participant teaching role, and years of experience at RI. All participants completed the survey pretraining and posttraining (See Table 2).

4.1.1 All Participants

The BABS was given October 2018, pretraining, and March 2019, posttraining. From pretraining to posttraining, there was a decrease (.75%) in participant responses to survey questions that were positive or functional, an increase (1.5%) in negative approach responses, and a decrease (1.25%) in neutral responses.

Examining participant pretraining and posttraining survey responses, there was a total of 88 shifts. Within the 88 shifts there were 42 positive shifts (47.73%) signifying participants shifted from a neutral response to a positive approach response, from a negative approach response to a positive approach response, or from a negative approach response to a neutral response. There were 46 negative shifts (52.27%) signifying participants shifted from a positive approach response to a negative approach response, from a neutral response to a negative approach response, or from a positive approach response to a neutral response.

The greatest number of positive shifts occurred from a neutral response to a positive approach response (n=26; 61.9%). A shift from a negative approach response to a neutral response and a negative approach response to a positive approach response were the second most common and equal (n=8; 19.05%). The greatest number of negative shifts occurred from a positive approach to a neutral approach (n=25; 54.34%). There were 11 (23.91%) shifts from a neutral response to a negative approach response and 10 (21.73%) shifts from a positive approach response to a negative approach response.

One participant responded to the BABS with no neutral responses pretraining and posttraining. Nine participants (45%), 6 teachers and ancillary staff (54.55%) and 3 paraprofessionals (33.33%), remained neutral in at least one question between pretraining and posttraining and 10 participants (55%), 5 teachers and ancillary staff (45.45%) and 5 paraprofessionals (55.56%), shifted away from a neutral response between pretraining and posttraining.

4.1.2 Prior FBA/BIP Training

Participants who received prior FBA and BIP training (n=13) responded to survey questions with a positive or functional approach on 75.35% of the questions pretraining and 72.7% of the questions posttraining. There was an increase (2.3%) in negative approach responses and neutral responses (.4%) between pretraining and posttraining.Participants who did not have prior FBA and BIP training (n=7) responded to student behavior with a positive or functional approach on 69.3% of the questions pretraining and 73.55% of the questions posttraining. There was no difference in negative approach responses and a decrease (4.3%) in neutral responses between pretraining and posttraining.

4.1.3 Self-Reported Most and Least FBA/BIP Experience

The 5 participants that reported the highest experience with FBA procedures (avg. 7.6; range 7-9) and BIP procedures (avg. 7.8; range 6-9) responded to survey questions with a positive or functional approach on 83% of questions pretraining and 79% of questions posttraining. There was an increase (1%) in negative approach responses and an increase (3%) in neutral responses between pretraining and posttraining.

The 5 participants that reported the lowest experience with FBA procedures (avg. 1.2; range 1-2) and BIP procedures (avg. 1.2; range 1-2) responded to survey questions with a positive or functional approach on 76% of questions in both pretraining and posttraining. There was an increase (1%) in negative approach responses and a decrease (1%) in neutral responses between pretraining and posttraining. Two of the 5 participants (40%) in this group indicated that they had received prior FBA and BIP training.

4.1.4 Participant Position

Those in the position of teacher or ancillary staff member (n= 11) responded to survey questions with a positive or functional approach on 80% of questions pretraining and 77.7% of questions posttraining. There was an increase (.9%) in negative approach responses and an increase in neutral responses between pretraining and posttraining.

Participants in the position of paraprofessional (n=9) responded to survey questions with a positive or functional approach on 65% of questions pretraining and 67.2% of questions posttraining. There was an increase (2.25%) in negative approach responses and a decrease (4.42%) in neutral responses between pretraining and posttraining.

4.1.5 Participant Experience at R.I.

When examining participants who have taught more than 10 years at RI (n=9; 14.6 avg. years of experience; range 10-18) there was a positive or functional approach on 73.9% of questions pretraining and 76.1% of questions posttraining. There was an increase (1.7%) in negative approach responses and a decrease (3.9%) in neutral responses between pretraining and posttraining.

Participants who have been teaching less than 10 years at RI (n=11; 3.5 avg. years of experience; range 1-7) responded to student behavior with a positive or functional approach on 72.7% of questions pretraining and 70.45% of questions posttraining. There was an increase (1.35%) in negative approach responses and an increase (.9%) in neutral responses between pretraining and posttraining.

4.2 BABS Building Questions

The BABS also contained eight questions that examined opinions on building behavioral practices: (a) as a school our analysis of behavioral data leads to specific interventions; (b) we do a good job as a school of analyzing or examining behavioral data for individual students; (c) as a school, we do a good job of defining problem behaviors; (d) my coworkers are consistent in addressing behavior; (e) there is administrative support when dealing with behavior; (f) our school uses evidence-based behavioral interventions; (g) a school team should assist teachers in providing and monitoring behavioral interventions for students in the school; (h) as a school, we need to work on defining problem behaviors. The results were examined across all participants,

participants with prior FBA and BIP training, participants that reported the most and least experience with FBA and BIP procedures, participant position, and participant experience at RI. Participants completed this survey pretraining and posttraining (see table 3).

4.2.1 All Participants

Across all participants (n=20) on building behavioral practices, there was a positive response on 55% of the questions pretraining and 69.38% of questions posttraining, a negative response on 22.5% of questions pretraining and 11.88% of questions posttraining, and a neutral response on 22.5% of questions pretraining and 18.75% of questions posttraining.

4.2.2 Prior FBA/BIP Training

Those with prior FBA and BIP training (n= 13) responded to building behavioral practices positively on 50% of questions pretraining and 61.5% of questions posttraining. There was a decrease (9.62%) in negative responses and a decrease (2%) in neutral responses between pretraining and posttraining.

Those without prior FBA and BIP training (n=11) responded to building behavioral practices positively on 64.25% of questions pretraining and 83.88% of questions posttraining. There was a decrease (12.51%) in negative responses and a decrease (8.38%) in neutral responses between pretraining and posttraining.

4.2.3 Participants Self-Reported Most and Least FBA/BIP Experience

The 5 participants that reported the highest experience in FBA (avg. 7.6; range 7-9) and BIP (avg. 7.8; range 6-9) procedures responded to building behavioral practices positively on 32.5% of questions pretraining and 52.5% of questions posttraining. There was a decrease (20%) in negative responses and no difference in neutral responses between pretraining and posttraining.

The five participants that reported the least experience in FBA (avg. 1.2; range 1-2) and BIP (avg. 1.2; range 1-2) procedures responded to building behavioral practices positively on 65% of questions pretraining and 77.5% of questions posttraining. There was a decrease (10%) in negative responses and a decrease (2.5%) in neutral responses between pretraining and posttraining.

4.2.4 Participant Position

Participants in the position of a teacher or ancillary staff member (n= 11) responded to building behavioral practices positively on 40.88% of questions pretraining and 55.63% of questions posttraining. There was a decrease (13.62%) in negative responses and a decrease (1.12%) in neutral responses between pretraining and posttraining.

Individuals in the role of paraprofessional (n=9) responded to building behavioral practices positively on 72.12% of questions pretraining and 86% of questions posttraining. There was a decrease (6.87%) in negative responses and a decrease (6.88%) in neutral responses between pretraining and posttraining.

4.2.5 Participant Experience at R.I.

When examining participants by teaching experience at RI, participants with 10 or more years of experience (n=9; 14.6 avg. years of experience; range 10-18) responded to building behavioral practices positively on 52.75% of questions pretraining and 72.25% of questions posttraining. There was a decrease (16.62%) in negative responses and a decrease (2.75%) in neutral responses between pretraining and posttraining.

Participants who have been teaching less than 10 years (n=11; 3.5 avg. years of experience; range 1-7) responded to building behavioral practices positively on 56.88% of questions pretraining and 67% of questions posttraining. There was a decrease (5.75%) in negative responses and a decrease (7.58%) in neutral responses between pretraining and posttraining.

4.3 Interviews

The purpose of the interviews was to gather a snapshot of beliefs about behavior, FBA and BIP techniques used in the building, and enablers and barriers to the FBA and BIP process. All interviews occurred pretraining. Interviewees were randomly chosen from the group of participants that consented to participate in the study. There was a total of 53 interviewee statements that were placed into four main categories: beliefs about behavior, FBA and BIP knowledge, barriers to FBA and BIP procedures, and enablers to FBA and BIP procedures. Within the category of beliefs about behavior there were 12 statements (22.64% of all statements), in FBA and BIP knowledge there were 21 statements (39.62% of all statements), in barriers to FBA and BIP procedures there were 14 statements (26.42% of all statements), and in enablers to FBA and

BIP procedures there were 6 responses (11.32% of all statements). Each of these included different subcategories.

Statements related to beliefs about behavior (n=12) were placed in one of three subcategories: how behavior is examined, how the behavior collection system functions, or how staff members interact with the behavioral analysis. There were 4 statements that related to how behavior is examined. Three statements (75%) related to behavioral analysis done in isolation and one (25%) statement that behavior analysis does not occur to its full extent. There were 2 statements that related to how the behavior collection system functions. One statement (50%), was related to a want for a more comprehensive and extensive collection system and one statement (50%) related to concerns that not all behaviors are equally addressed, with one interviewee stating, "we're targeting the kids more or less that are having severe problems that need to take time out or need to be physically … We haven't had any restraints, but we have other kids that maybe have issues that aren't being met."

There were 6 statements that related to how staff members interact with the behavioral analysis. Two statements (33.33%) focused on the teacher being the catalyst behind behavioral analysis and interventions. One statement (16.67%) was related to a lack of time to fully analyze behavior and one statement (16.67%) related to behavioral interventions not being individualized enough. There were also two statements (33.33%) with positive connotations; one expressing that the building and staff strive for all students to have EBPs and the other was that programming for students was very individualized.

There were 21 statements in the category of knowledge of FBA and BIP. When examining how behavior data is collected, there were 5 statements (23.81%) that direct observation was used and 4 statements (19.05%) that indirect observation was used. There were 12 statements (57.14%)

across all interviewees that related to how behavior is examined through considering antecedents, consequences, functions, motivations, and behaviors. Interviewees mentioned their approach to behavior being, “it’s more or less just what’s wrong and being very non-confrontational,” and “when I first see a behavior, I look for the trigger.”

There was a total of 14 interviewee statements related to barriers and the FBA and BIP procedures. Five statements (35.71%) related to consistency among staff members, 2 statements (14.29%) related to consistency in the building, 5 statements (35.71%) related to the difficulty with FBA terminology, with one interviewee stating, “I can comprehend the words, but I’m unfamiliar with the process.” One statement (7.14%) was related to punitive behavioral interventions, and 1 statement (7.14%) was related to communication in the building being the critical barrier for building FBA and BIP procedures.

There was a total of 6 statements related to enablers and the FBA and BIP procedures. Two statements (33.33%) related to when there is staff consistency, 2 statements (33.33%) related to a team approach, 1 statement (16.67%) related to the use of positive behavioral interventions, and 1 statement (16.67%) related to the staff’s willingness to try different interventions.

Interviewees were asked to define defiance and non-compliance, two common terms used in the building, and rate how confident they were that it would match other interviewees definitions. For the definition of defiance, across all interviewees, 52.9% (n=3.17) felt confident their definition matched others. 100% of interviewees (n=6) mentioned the words, “resisting” and “refusal” in their definition while 50% (n=3) of interviewees also used the term “deliberate” in their definition.

For the term non-compliance, the confidence level among interviewees was 46.7% (n=2.8). 83% of the interviewees (n=4.98) used the phrase, “not doing what they are supposed to do” in

their definition, 33% (1.98) mentioned it may not be deliberate, 17% (n=1.02) mentioned the subjectivity of the term, and 17% (n=1.02) mentioned that it was dependent on time.

When asked which area, whole building, classroom, or beliefs about behavior in general, is there the most cohesion among staff members, there was a wide variety among interviewees. Four of the six interviewees (67%) ranked the most cohesive aspect as the whole building. There was variety in how interviewees ranked classroom practices and personal beliefs as the second and third most cohesive aspects within RI.

Results of the interviews help confirm initial data collected regarding behavioral practices in the building. Three questions on the second construct of the BABS examined consistency of coworkers when addressing behavior, the school doing a good job of analyzing behavior, and the school behavioral data leading to specific interventions. Pretraining the average positive response to these questions was 30% and posttraining the average was 51%. These feelings on inconsistency and how behavior is examined is reflected in both the second construct of the BABS and the pretraining interviews.

4.4 Pretraining and Posttraining Tests

Pretraining and posttraining tests were given for each of the 4 modules. Module 1 included 19 participants and 9 questions, module 2 included 18 participants and 8 questions, module 3 included 17 participants and 7 questions, and module 4 included 18 participants and 13 questions (see Table 4).

4.4.1 All Participants

Across all participants (n=19), the average pretraining score for module 1 was 3.95 questions answered correctly and an average of 6.26 questions answered correctly posttraining. The average pretraining score for module 2 was 3.33 questions answered correctly and an average score of 5 questions answered correctly posttraining. The average pretraining score for module 3 was 4.12 questions answered correctly and an average score of 4.65 questions answered correctly posttraining. The average pretraining score for module 4 was 7 questions answered correctly and an average score of 9.05 questions answered correctly posttraining. Taken together, across all participants and modules, the average questions answered correctly pretraining was 49.63% and the average questions answered correctly was 67.54% posttraining.

4.4.2 Prior FBA/BIP Training

When examining Participants with prior training (n=13), in module 1 there was an average increase of 2.38 questions answered correctly, in module 2 there was an average increase of 2.07 questions correctly, in module 3 there was an average increase of 0.75 questions correctly, and in module 4 there was an average increase of 2.33 questions correctly. All increases occurred between pretraining and posttraining tests. Across all modules participants with prior training answered an average of 51.62% questions correctly pretraining and an average of 72.23% questions correctly posttraining.

When examining Participants without prior training (n=7), in module 1 there was an average increase of 2.17 questions correctly, in module 2 there was an average increase of 0.6 questions correctly, in module 3 there was no difference in questions answered correctly, and in

module 4 there was an average increase of 1.57 questions answered correctly. All increases occurred between pretraining and posttraining tests. Participants without prior training scored an average of 45.45% questions correctly pretraining and an average of 57.72% questions correctly posttraining.

4.4.3 Participant Self-Reported Most and Least FBA/BIP Experience

When examining the 5 participants that reported the most experience with FBA and BIP procedures, in module 1 there was an average increase of 2.2 questions answered correctly, in module 2 there was an average increase of 2.6 questions answered correctly, in module 3 there was an average increase of 2.2 questions answered correctly, and in module 4 there was an average increase of 2.6 questions answered correctly. All increases occurred between pretraining and posttraining. Participants who self-reported the highest experience in FBA and BIP procedures scored an average of 55.13% questions correctly pretraining and an average of 81.08% questions correctly posttraining.

When examining the 5 participants who reported the lowest experience in FBA and BIP procedures, in module 1 there was average increase of 2.75 questions correctly, in module 2 there was an average increase of 1.75 questions answered correctly, in module 3 there was an average increase of 0.75 questions answered correctly, and in module 4 there was an average increase of 2.4 questions answered correctly. All increases occurred between pretraining and posttraining tests. Across all modules, participants who self-reported the lowest experience in FBA and BIP procedures answered an average of 45.96% questions correctly pretraining and an average of 66.45% posttraining.

4.4.4 Participant Position

When examining participants in the role of paraprofessional (n=9), in module 1 there was an average increase of 1.87 questions answered correctly, in module 2 there was an average increase of 0.87 questions answered correctly, in module 3 there was an average of 0.25 questions answered correctly, and in module 4 there was an average of 2.12 questions answered correctly. All increases occurred between pretraining and posttraining tests. Participants who were in the position of paraprofessional scored an average of 39.48% questions correctly pretraining and an average of 53.39% of questions correctly posttraining.

When examining participants in the role of teacher or ancillary staff (n=11) in module 1 there was an average increase of 2.6 questions answered correctly, in module 2 there was an average increase of 2.3 questions answered correctly, in module 3 there was an average of .8 questions answered correctly, and in module 4 there was an average of 2 questions correctly answered. All increases occurred between pretraining and posttraining tests. Across all modules there was an average score of 60.16% of questions answered correctly pretraining and an average of 82.17% of questions answered correctly posttraining.

4.4.5 Participant Experience at R.I.

When examining participant teaching experience at RI, for those individuals that had 10 years or more of experience (n=9), in module 1 there was an average increase of 2 questions answered correctly, in module 2 there was an average increase of 1.29 questions answered correctly, in module 3 there was an average increase of 1.33 questions answered correctly, and in module 4 there was an average increase of 2.33 questions answered correctly. All increases

occurred between pretraining and posttraining tests. Across all modules there was an average of 49.12% of questions correctly pretraining and an average of 67.94% of questions correctly posttraining.

For participants with less than 10 years of teaching experience at RI (n=11) in module 1 there was an average increase of 2.54 questions answered correctly, in module 2 there was an average increase of 1.91 questions answered correctly, in module 3 there was an average increase of 0.09 questions answered correctly, and in module 4 there was an average increase of 1.8 questions answered correctly. All increases occurred between pretraining and posttraining tests. Across all modules, there was an average of 49.12% of questions answered correctly pretraining and an average of 67.94% of questions answered correctly posttraining.

4.5 Social Validity

The posttraining survey included 12 social validity questions relating to the information presented in the training in relation to skill level (e.g., "The information was delivered in an effective way"), comfort towards conducting FBAs and BIPs (e.g., "I feel more comfortable with the FBA and BIP process"), and changes in beliefs about behavior (e.g., "My beliefs about behavior have changes"). Across all questions and participants, there was positive agreement to an average of 9.85 statements (82.08%; range 3-12), a disagreement to an average of .35 statements (2.92%; range 0-4), and a neutral response to 1.8 statements (15%; range 0-9).

The statements that participants agreed on most were, "the information in the modules was appropriate to the setting and student population" (90%), "the information was appropriate to my

individual skill level" (90%), and "the professional development provided ample opportunities to practice skills and discuss behavior" (95%).

The statement that participants held a varied view on was, "my beliefs about behavior have changed" (40% agreed, 15% disagreed, and 45% neutral) (see Table 6).

4.6 FBAS and BIPS Written

Prior to this study there was only one FBA and BIP being implemented at RI. During this study (October 2018 to March 2019) there was a total number of 4 FBAs written, 2 resulted in BIPs, 1 resulted in an incomplete BIP, and 1 did not include a BIP.

4.6.1 Technical Adequacy of FBAS and BIPS

The technical adequacy of the FBAs was measured using the Basic FBA Checklist. There was a 73.21% technical adequacy for all four FBAs written. The most technically adequate FBA scored 78.57% and the least technically adequate FBA scored a 64.29%.

The technical adequacy of the BIPs was measured using the Basic FBA to BSP Checklist. Of the two completed BIPs, both scored a 59.09% on technical adequacy.

4.7 SWIS

Behavior incidents that occurred throughout the building were recorded in SWIS. Behavior incidents were examined and compared to each other over the past 3 years (see Table 5). During

the 2016/17 school year from September to April there was a total of 927 behavior incidents. This equates to roughly 6.6 behavior incidents per day. During the 2017/18 school year from February to April there was a total of 351 behavior incidents. This equates to roughly 6.5 behavior incidents per day. SWIS was not used during the beginning of the school year. During the 2018/19 school year from September to April there was a total of 743 behavior incidents. This equates to roughly 6.1 behavior incidents per day.

5.0 Discussion

Managing student behavior is a vital skill for teachers and is closely tied to academic and social achievement for students in special education (Meyers, Freeman, Simonsen, & Sugai, 2017). Educators feel unprepared when addressing challenging behavior in the classroom. This leads to feelings of negativity towards inclusion of students in special education (Flower, McKenna, & Haring, 2017; Hernandez, Hueck, & Charley, 2016). Students with EBD display higher rates of difficult behavior and are subject to lower grades, higher rates for dropout rates, expulsions, and suspensions when compared to peers in other disability categories (Bradley et al., 2008; Kern, Hilt, & Gresham, 2004; Lewis, Jones, Horner, & Sugai, 2010; Strickland-Cohen, et al., 2016; Bradley, Doolittle, & Bartolotta, 2008).

FBAs are a tool that can help to address these issues with this population; however, there are misconceptions associated with the use of FBAs, such as there use as a reactionary procedure or they can only be conducted by highly trained individuals (Scott et al., 2005). These perceptions run contrary to programs like The *Basic FBA and BSP Training Program* that shows education professionals across different positions and experience levels gaining the skills necessary to conduct technically adequate FBAs and BIPs (Loman et al., 2013; Strickland-Cohen, & Horner, 2015; Loman & Horner, 2014).

The purpose of this study was to train staff members at a center-based program for students with EBD in FBA and BIP techniques. This training would improve behavior management techniques used in the building and classrooms and help students to gain access to their non-disabled peers by transitioning to a less restrictive environment. This study will also contribute to

the research base for training staff members to implement FBA and BIP techniques in a school setting.

5.1 Research Question One

Using a modified version of the *Basic FBA to BSP Training* (Loman et al., 2013), from pre- to post-training, this study examined whether the staff would increase in beliefs about behavior that support a functional, or "positive", approach.

RI staff did not display an increase in beliefs about behavior that support a function or positive approach. Prior studies examined in the literature review did not focus on the participant's beliefs about behavior, with the exception of some social validity questions. Changing beliefs about behavior is not a central component of The *Basic FBA to BSP Training* (Loman et al., 2013); however, the teacher is a vital part of the intervention process because they choose interventions based in part on personal beliefs (Lang et al., 2010). One exception in the literature review was Opartkiattikul et al. (2016) where participants were asked their feelings on behavior after the training and responses included more confidence and consistency when dealing with behavior, a view of behavior in a different context, and one participant no longer viewing the problem behavior as a failure of the student and caretaker. This suggests that FBA and BIP training has the ability to positively change beliefs about behavior.

Results from the BABS survey from pretraining to posttraining, indicate there was a decrease in a positive or functional approach response across all participants (.25%), participants with prior training (2.7%), the 5 participants who self-reported the most FBA and BIP experience (4%), teachers and ancillary staff (2.25%), and those that have been teaching at RI for 10 years or

more (2.3%). There was an increase in a positive or functional approach response between pretraining and posttraining for participants without prior training (4.25%), those in the role of paraprofessional (2.2%), and participants who have been teaching less than 10 years at RI (2.2%). This suggests that participants with prior training, self-reported as being highly experienced in FBA and BIP procedures, in the role of teacher or ancillary staff, and have been teaching at RI for 10 years or more are secure in their beliefs about behavior even if the result is a negative approach response. Those with less training and experience may be more willing to experiment with different responses to behavior.

Looking at the social validity question, "my beliefs about behavior have changed," 40% (8 participants) agreed, 15% (3 participants) disagreed, and 45% (9 participants) were neutral. Taking the 8 participants who agreed to the social validity statement and examining their scores on the BABS, there were 2 participates (25%) that displayed positive growth, 5 participants (62.5%) that displayed negative growth, and 1 participant (12.5%) that were neutral. This suggests a contradiction between how participant's felt their beliefs about behavior had changed and the responses that they provided pretraining and posttraining on the BABS. This contradiction between data sources can also be seen in another social validity statement, "I think about behavior in terms of function more now than before the training." The previously mentioned 8 participants all agreed with this statement, but again, they did not display positive growth between pretraining and posttraining BABS scores. When looking at the second construct of the BABS, related to building behavioral practices, there was an increase in every participant category examined. This suggests that although participants did not change in their beliefs about behavior, they did become more confident in building wide behavioral procedures through the training. Variations in data suggests that beliefs about behavior are complex and although they are related to intervention programs

such as FBA and BIP training, they require a separate approach. Another conclusion is that the BABS measurement was not the right measurement for changes pretraining to posttraining. Changing beliefs about behavior may include examining views and practices that are deeply rooted in educators.

5.2 Research Question Two

Using a modified version of the *Basic FBA to BSP Training* (Loman et al., 2013), from pre- to post-training, this study examined would the R.I. staff display an increase in knowledge of FBA and BIP procedures.

There was an increase in knowledge e of FBA and BIP procedures seen through module pretraining and posttraining tests. Pretraining and posttraining module test responses were examined across all participants, participants that had previously received FBA and BIP training, participants that self-reported the highest and lowest experience with the FBA and BIP procedures, participant teaching role, and years of experience at RI. All participant areas examined displayed an increase between pretraining and posttraining. Examining results across all modules, those that had received prior training increased in correct responses by 20% compared to those without prior training who increased by 11%. Those with the most confidence increased by 27%, while those who were the least confidence increased by 20%. Teachers and ancillary staff members increased by 21%, while paraprofessionals increased by 13%. Those with 10 or more years of experience at RI increased by 18%, while those with less than 10 years of experience at RI increased by 17%. The biggest increase across all participants between pretraining and posttraining was 25.73% in

module 1. The lowest increase across all participants between pretraining and posttraining was 7.56% in module 3.

All module tests were multiple choice; however, the test for module 3 included multiple choices within the Competing Behavior Pathway form. This could have proved difficult, because it was the only test to require information from the module to be used in a different context.

Pretraining and posttraining test differences when examined in different participant groups yields unremarkable results, but experience within RI did not appear to be a predictor of FBA and BIP achievement.

5.3 Research Question Three

Using a modified version of the *Basic FBA to BSP Training* (Loman et al., 2013), from pre- to post-training, this study examined whether there would be an increase in use of FBAs and BIPs in this setting.

There was an increase in the FBAs and BIPs at RI. Prior to the training, there was 1 FBA and 1 BIP being implemented in RI. During the training, participants wrote 4 FBAs and 2 BIPs. The average technical adequacy of the FBAs was 73.21% and the average technical adequacy for the BIPs was 59.09%. Although the technical adequacy measurement was below the 80% recommended by the training, the increase is promising, and the technical adequacy should increase if more FBAs and BIPs are written and participants become more familiar with the forms. There were no technical adequacy measurement of the FBA and BIP implemented in RI prior to training.

5.4 Research Question Four

Using a modified version of the *Basic FBA to BSP Training* (Loman et al., 2013), from pre- to post-training, this study examined would there be a decrease in their number of behavioral referrals.

There was a decrease in the number of behavioral referrals during the 2018/19 school year at RI. There was a total of 927 behavior incidents over 141 days during the 2016/17 school year which equates to roughly 6.6 incidents per day. During the 2017/18 school year, SWIS was not used during the beginning of the year, but between February and April, 54 days, there were 351 behavior incidents. That equates to 6.5 behavior incidents a day. During the 2018/19 school year there were 743 behavior incidents over 122 days, which equates to 6.1 incidents per day. This decrease in behavior incidents could be a casual relationship between the training and the decrease in incidents. The training could have assisted participants in thinking about behavior more in terms of function, which means a more positive view of challenging behavior would yield less behavior incidents.

6.0 Limitations

There are several limitations in the study. One limitation was in the design of this study. The design was a one group pretest and posttest design. There was no comparison group. Because of this, it is difficult to tell if the changes are because of the training.

Another limitation is the lack of interrater reliability and procedural fidelity. Modifications to the original intervention, the *Basic FBA to BSP Training* (Loman et al., 2013) were not measured by another individual to assure fidelity of the materials being presented. The technical adequacy of the FBAs and BIPs did not include an interrater agreement measurement. There was also no second coder on the interview data. Interrater reliability and procedural fidelity would have strengthened the findings.

Another limitation relates to the setting of the study. RI is a center-based program where staff members have some specialized training (Therapeutic Crisis Intervention) to better work with students with an EBD. The results of the study may not translate to non-center-based educational settings.

The final limitation is the lack of longitudinal data. The study lasted one school year. Additional data from future school years would help show the impact of the training on the number of FBAs and BIPs written, the technical adequacy of FBAs and BIPs, and trends in student behavioral incidents.

7.0 Conclusion

There are many factors when examining students with special needs, specifically those with an EBD. Originating from the importance of managing classroom behavior (Meyers et al., 2017), many educators feel unprepared to manage challenging behavior while also having negative feelings towards inclusion (Flower et al., 2017; Hernandez, et al., 2016). This creates barriers to success for this marginalized population because one of the hallmarks of this disability revolves around challenging behavior that leads to lower grades, an increase in suspensions and expulsions, and placement in more restrictive settings (Strickland-Cohen et al., 2016; Bradley et al., 2008; Lewis et al., 2010; Bradley et al., 2008; Kern et al., 2004; U.S. Department of Education, 2017). An effective intervention to addresses these deficits of students with an EBD is the use of FBAs and BIPs; however, barriers exist in the creation of FBAs and BIPs such as the perception that they are highly meticulous documents that can only be completed by highly trained professionals (Scott et al., 2005). Teachers and other staff members are a critical part of the intervention process, because they choose interventions and do so based on their educational beliefs (Lang et al., 2010; Nelson & Steele, 2007; Beets et al., 2008). To illicit positive change within a school it is important to begin with educators when addressing the needs of students which is something that is largely overlooked by previous FBA training literature. These conclusions can help guide researchers and practitioners in developing and delivering holistic professional developments addressing a gap between research and practice.

In this study, comparing pretraining and posttraining BABS responses, there was an increase in positive or functional approaches from participants that fell into one or more of these categories (n=6): those without prior training (n=3), those in the role of paraprofessional (n=4),

and those who have taught less than 10 years at this setting (n=3). On a social validity measurement, 8 participants (40%) agreed that their beliefs about behavior had changed, 3 participants (15%) disagreed, and 9 participants (45%) were neutral. When comparing the BABS measurements to the social validity measurement, 2 of the participants that showed an increase in positive or functional responses on the BABS between pretraining and posttraining also agreed with the social validity questions that their beliefs about behavior had changed. The other 4 participants that showed an increase in positive or functional responses on the BABS between pretraining and posttraining were neutral in their response to the training had changed their beliefs about behavior. These two measurements contrast one another which leads to the potential conclusions: (1) the BABS was not the correct instrument to measure changes in beliefs in behavior within this FBA and BIP training system and/or (2) beliefs in behavior are rooted in more complex social and psychological contexts and addressing this would require separate additional professional development.

There was an increase in FBAs and BIPs written during this study along with a reduction in student behavior incidents. Pretraining on a 10 point scale with 10 being highly experienced, across all participants, the average self-reported experience with FBAs and BIPs was 4.1 and posttraining was 7.7. This shows an increase in comfort and confidence in FBAs and BIPs, which could have accounted for the increase in FBAs and BIPs written over the course of the training. Technical adequacy of the BIPs (59.09%) were not as high as those reported in previous literature, but this does not account for the differences in participants. Participants in one study (Strickland-Cohen & Horner, 2015) displayed a 95.45% technical adequacy for BIPs; however, the participants were nominated by a district specialist for training based on job responsibilities to lead behavior support teams as opposed to the participants in this study who attended the *Basic FBA to BSP*

Training (Loman et al., 2013) because it was a part of district required professional development. A decrease in behavioral incidents could be attributed to the training, but further measurements and data would be needed to solidify this relationship. When examining FBA and BIP knowledge, all participants displayed an increase regardless of role or experience. This reflects the results in previous studies that used a pretest and posttest design (Loman & Horner,2014; Strickland-Cohen et al., 2016; Borgmeier et al., 2015; Strickland-Cohen & Horner, 2015; Crone, Hawken, & Bergstrom, 2007). This study extends on these previous findings.

7.1 Implications for Research

FBAs and BIPs are effective in addressing challenging behavior and the *Basic FBA to BSP Training* (Loman et al. 2013) has positive effects on FBA and BIP knowledge. While this addresses some of the barriers of FBAs and BIPs such as FBA and BIP training and staff development (Mitchem, Richards, & Wells, 2001; Strickland-Cohen et al., 2016; Rispoli, et al., 2016) gaps still exist. FBAs and BIPs are effective in reducing challenging behavior, but there are still needs when examining educator beliefs about behavior with FBA and BIP training. FBAs and BIPs are going to lead to functional or positive approaches to addressing behavior. Research behind educators use of the interventions and how they relate to their beliefs about behavior add depth to an already evidence-based and research-based procedure.

Prior literature reviews (Allday et al., 2011) had the educator in a secondary role to the researcher, which does not provide a reliable measurement of how well an educator can conduct both FBAs and BIPs under natural school conditions. Previous research on the *Basic FBA to BSP Training* (Loman et al., 2013) have educators at the forefront of conducting FBAs and BIPs which

is promising because they are the individuals that will write and execute them. Research focusing on educators' ability to write and implement FBAs and BIPs through training will also help to address some barriers surrounding FBAs and BIPs.

7.2 Implications for Practice

The *Basic FBA to BSP Training* (Loman et. al, 2013) was effective in increasing FBA and BIP knowledge regardless of experience or position. This is reflected in previous research (Strickland-Cohen & Horner, 2015; Loman & Horner, 2014; Borgmeier et al., 2015). The training also had a positive effect on the number of FBAs and BIPs written in this setting. The increase in FBA and BIP knowledge did not affect beliefs about behavior but may have had a positive effect on building wide behavioral practices as measured by the second construct of the BABS. The number of behavioral referrals could be a result of the FBA training. Taken together, pretraining interview data helped to affirm findings regarding building wide behavior practices and the data from pretraining and posttraining FBA and BIP knowledge tests gave participants experience with common FBA and BIP forms which would influence the number of FBAs and BIPs constructed.

Because of the benefits of inclusion for students in special education, specifically those with an EBD (Kurth, Morningstar, & Kozleski, 2014), every educator should be trained in the construction and implementation of FBAs and BIPs. While that training will increase knowledge in the FBA and BIP process, it may not be enough to sustain training due to lack of individualized support (Bethune & Woods, 2013). Training for FBAs and BIPs should be done yearly with updates and discussions happening monthly to increase adequacy and give opportunities to conduct FBAs and BIPs (Strickland-Cohen et al., 2016) which would help to provide

individualized support. Examining beliefs behind behavior will help to solidify these practices and possibly create more emotionally competent educator. If an educator understands their personal beliefs about behavior the result would mean more meaningful interventions for students because challenging behavior from students could illicit an emotional response (Valente, Monteiro, & Lourenço, 2019). Data regarding use of interventions and their match to function of behavior, student behavioral referrals, and social validity measurements would all help to strengthen building wide practices (Strickland-Cohen & Horner, 2015; Strickland-Cohen et al., 2016; Loman & Horner, 2014). Beginning training with the educator and their understanding of materials and themselves is a logical first step that could possibly effect students in more positive ways.

Appendix A Literature Review

Table 1. Literature Review

Author(s) (Year)	*Setting and Classroom Demographics*	*FBA/BIP Training Materials and Time*	*Procedure*	*Measurement Tools*	*Outcomes*	*Participants*	*Research Design*
Loman & Horner (2014)	10 elementary schools Not stated	Basic FBA training package Four 1 HR sessions	Overview of program with examples and opportunities to operationally define and identify the function of behavior and identify students that would benefit from the FBA processes Instruction, modeling, and practice opportunities for FACTS and ABC observation forms Practice other aspects of FBA	FBA Knowledge Assessment Procedural adequacy checklist Social validity measure	FBA Knowledge Assessment suggests school personnel did not begin with skills and knowledge to conduct FBA, but ended the training being able to conduct technically adequate FBAs Procedural adequacy checklist indicated FBAs conducted by school personal resulted in 100% procedural adequacy A social validity measure indicated that FBA training was perceived as beneficial, practical, and efficient for use within schools	12 participants: 7 counselors 2 learning specialists 3 administrators	Non-experimental group design Pre-and posttest No control group

Table 1 continued

			process such as interviews, summary statements, and strategies to design FBIs.				
Strickland-Cohen, Kennedy, Berg, Bateman, & Horner (2016)	5 elementary schools 2 middle schools 2 kindergarten programs Not stated	Basic FBA to BSP training package Four 1 HR sessions	Introduction to the training series Define behavior as observable and measurable Identify students that would benefit from the process Case studies and practical examples Roleplaying	BSP knowledge test Follow up survey Social validity measurement	Results from BSP knowledge test indicated a statistically significant increase and large effect size Follow up survey indicated that the methods and materials presented in the training series were used Social validity measurement found the mean rating on all statements indicated high social validity	33 participants: 2 school psychologists 2 gen. ed. teachers 22 special ed. teachers 5 counselors 2 administrators	Non-experimental group design pre-and posttest No control group
Opartkiattikul, Arthur-Kelly & Dempsey (2016)	Elementary school 4 students at risk for behavioral problems	Modified from the University of Newcastle program Early Childhood Intervention Professional Development Project (2009) Coaching	Background on FBA components and uses In workshop practice sessions Video recording of sessions with evaluation was done cooperatively	Individual interviews Rating scale	Individual interviews indicated that teachers were more confident and consistent when dealing with students, viewed student behavior in a different more productive way, and were satisfied with the results Rating scales indicated a rise in FBA procedures during	4 participants: All gen. ed. teachers	Non-experimental group design pre, during, post training

Table 1 continued

		Every two weeks for 3 sessions	with the first author Focus group at the end of the study		study, but after training there was a decrease in FBA procedures		
Fallon, Zhang, & Kim, (2011)	Not stated Not stated	ABA course modified by 3 experts in special education Course Assessments (a tool for measuring students' performance) Fourteen weeks long	Background on FBAs Examples and case studies Construction of FBA for student	Course Assessments	Effective FBA/BIP skills can be taught to pre-service teachers using course assessments Participants stated FBA training made them more aware of students and behavior along with a better understanding of personal skills and areas of need	59 participants: pre-service special ed. teachers	Non-experimental group design across cohort years
Borgmeier, Loman, Hara, & Rodriguez, (2015)	Not stated Not stated	FBI training package 1 HR	Directly taught prevention, replacement behaviors, and how to appropriately respond to the problem behavior Each intervention component (prevention, alternative behaviors, response to	FBI training package	FBI training package testing indicated a significant improvement between pre-and posttest for participants regardless of role, training venue, and previous experience with FBA/BIP procedures	257 participants: 57 gen. ed. teachers 37 counselors 22 school psychologists 21 behavior specialists 31 special ed. teachers 67 graduate students	Non-experimental group design Pre-and posttest No control group

Table 1 continued

			appropriate and inappropriate behaviors) taught independently with critical aspects, demonstrations, and vignettes with instructors using think-alouds to teach the process				
Walker & Snell (2017)	2 elementary classrooms 3 students ASD, SLP, ID	FBI training workshop Coaching Two 1 HR workshops 3-8 weeks of coaching	Training began with the process of using an FBA and development of FBI strategies based on assessment results How to apply strategies by using a video of a student during the FBA and baseline process Practice collecting data from videos, forming a hypothesis, and identifying appropriate interventions	Observation sessions and checklist Social validity measurement	Observation sessions and checklists indicated that training characterized by pre-intervention workshops and brief weekly coaching sessions may be enough to teach paraprofessionals to implement FBIs Inconsistencies and deficits with one participant suggest more training, a different training model, increase cooperation, or low skill level as potential causes A social validity measurement indicated training was socially valid	3 participants: All paraprofessionals	Single subject multiple baseline across participants

Table 1 continued

			Taught how to implement FBI strategies to students through modeling, examples, role-playing scenarios, and watching prior videos of students				
Dukes, Rosenberg, & Brady (2008)	School district Not stated	In service developed by Brady, Vaccaro, Niles, Brookner, Murray, & Perez, (1998) 3 days 7 HRS each session	Background of FBAs and ability to identify function of behavior Examining the basic meaning and purpose of interventions that are examined using guiding questions Make clear connection between how the FBA process is used to develop the BIP Use of case studies, role-playing activities, and homework	Survey of intervention practices used for students exhibiting challenging behavior	Survey of intervention practices indicated that knowledge of behavior function was significantly better than control, more accurate in knowledge-based questions about function, and in the area of recommendations for behavior change methods, there was no significant difference between two groups.	125 participants: All special ed. teachers	Quasi-experimental design Posttest only control group

Table 1 continued

Strickland-Cohen & Horner (2015)	Elementary school 6 students found to be at risk by school professionals	BSP training package Three 2 HR sessions	Teach critical features of FBA summary and how to select replacement behaviors Instruction, modeling and practice finding the function of the behavior to develop preventative, teaching, and replacement strategies Practice sessions related to implementing the BIP and evaluating the process Instruction on how to lead an FBA team through the BIP process and more role-playing activities	BSP Knowledge assessment PHASE II BSP critical features checklist PHASE II Contextual Fit rating scale PHASE II Direct Observation Social validity measurement	BSP Knowledge Assessment indicated that all participants ended the Basic BSP training series with knowledge of the core concepts and processes for building student BSPs Checklist indicated team leaders were able to lead school based teams in development of student BSPs that were perceived as both technically adequate and contextually appropriate Rating scales indicated high levels of treatment integrity and suggest a functional relationship between the implementation of function based support strategies by typical classroom staff and improvements in student behavior Social validity measurement showed high social validity scores on the ease of the program, suggesting it to other professionals, the training being	13 participants: 2 learning specialists 2 special ed. teachers 3 school psychologists 1 autism specialist 1 behavior specialist 3 counselors 1 resource teacher	Non-experimental group design pre and posttest no control

Table 1 continued

					adequate, and plans to use training in the future		
Bethune & Wood (2013)	Elementary school 4 students with moderate to severe cognitive impairment	Materials developed from Umbreit et al. (2007) Coaching 6 HR Coaching session 10 minutes	Background on FBA and how to conduct one along with information on ABA and FBIs Workshop to practice skills and develop FBIs for students using tools like an FAI, function matrix and competing pathways	Function based intervention procedure Fidelity checklist Social validity measurement	Checklist helped to show a functional relationship between coaching and accurate implementation of function-based interventions A social validity measurement showed that teachers agreed with the importance of implementing FBIs and will use and continue to implement FBIs	4 participants: All special ed. teachers	Single subject multiple baseline across participants
Crone, Hawken, & Bergstrom (2007).	District A- 6 elementary schools/1 middle school District B-2 elementary schools/2 middle schools Not stated	Effective Behavior Support package Coaching Over the school year Cohort 1 / District A: Once a month for 6 half day workshops Cohort 1/District B:	Basic foundations of FBAs / BIPS Workshop format included instruction on FBA or BIP topic and time to practice the skill within the group Expectation was to practice skills in between trainings Topics included (a) antecedents,	FBA knowledge test Individual Systems Evaluation Tool (ISET) Social validity measurement	FBA knowledge test showed a significant difference between pre-and posttest regardless of role ISET measurement indicated that all schools implemented this FBAs with greater than 80% fidelity A social validity measurement showed FBA training improved skills in gathering FBA data, implementing BSPs, and overall positive	68 participants: 24 gen. ed. teachers 12 administrators 11 educational assists. 7 special ed. teachers 4 school psychologists 3 student mgmt. specialist 3 counselors 1 child dev. specialist 1 librarian 1 learning specialist	Non-Experimental group design Pre-and posttest No control group

Table 1 continued

		Five monthly meetings Cohort 2: Two 7 HR days	behaviors, and consequences (b) operational definition of behavior (c) FBA tools like interviews and observations (d) competing behavior pathways and (e) designing and evaluating BIPs	outcomes for staff and students

Notes: FBA: Functional Behavior Assessment; FACTS: Functional Assessment Checklist for Teachers and Staff; FBI: Function-Based Intervention; ABA: Applied Behavior Analysis; BSP: Behavior Support Plan; FAI: Functional Assessment Interview; ABC: Antecedent, Behavior, and Consequence

Table 2. BABS Pre- and Posttraining Responses for Beliefs About Behavior – Individual

	Pretraining			Posttraining		
	Functional Approach	Negative Approach	Neutral Approach	Functional Approach	Negative Approach	Neutral Approach
All Participants	73.25%	12%	14.75%	73%	13.5%	13.5%
Participants with prior training	75.40%	9.60%	15%	72.70%	11.90%	15.40%
Participants without prior training	69.30%	16.45%	14.30%	73.55%	16.45%	10%
Self-reported most experienced	83%	8%	9%	79%	9%	12%
Self-reported least experienced	76%	16%	8%	76%	17%	7%
Teacher or ancillary staff	80%	8.65%	11.35%	77.75%	9.55%	12.75%
Paraprofessional	65%	16.1%	18.90%	67.20%	18.35%	14.45%
Years taught at RI (less than 10 years)	73.90%	11.10%	15%	76.10%	12.80%	11.10%
Years taught at RI (10 or more years)	72.75%	12.75%	14.55%	70.45%	14.10%	15.45%

Table 3. BABS Pre- and Posttraining Responses for Beliefs About Behavior – School-level

	Pretraining			Posttraining		
	Positive Response	Negative Response	Neutral Response	Positive Response	Negative Response	Neutral Response
All Participants	55%	22.50%	22.50%	69.38%	11.88%	18.75%
Participants with prior training	50%	24%	26%	61.50%	14.38%	24%
Participants without prior training	64.25%	19.63%	16%	83.88%	7.12%	8.88%
Self-reported most experienced	32.50%	37.50%	30%	52.5%	17.5%	30%
Self-reported least experienced	65%	17.50%	17.50%	77.50%	7.5%	15%
Teacher or ancillary staff	40.88%	31.75%	27.25%	55.63%	18.13%	26.13%
Paraprofessional	72.12%	11%	16.63%	86.13%	4.13%	9.75%
Years taught at RI (<10)	56.88%	20.50%	22.75%	67%	14.75%	18.13%
Years taught at RI (>10)	52.75%	25%	22.25%	72.25%	8.38%	19.50%

Table 4. Pre- and Posttraining Test Scores

	Module 1 (9 Questions)			Module 2 (8 Questions)			Module 3 (7 Questions)			Module 4 (13 Questions)		
	Pre-test	Post test	Difference	Pre-test	Post-test	Difference	Pre-test	Post-test	Difference	Pre-test	Post test	Difference
All participants	43.86%	69.59%	25.73%	41.67%	62.50%	20.83%	58.82%	66.38%	7.56%	53.84%	69.63%	15.78%
Prior training	47.77%	74.33%	26.56%	42.25%	68.25%	26%	58.28%	69%	10.71%	57%	75%	18%
No prior training	35.22%	59.22%	24%	40%	47.5%	7.5%	60%	60%	0%	48.31%	60.38%	12.07%
Self-reported most experienced	66.67%	91.11%	24.44%	40%	72.5%	32.5%	51.43%	82.86%	31.43%	58.46%	78.46%	20%
Self-reported least experienced	27.78%	58.33%	30.55%	43.75%	65.62%	21.87%	46.43%	57.14%	10.71%	56.92%	75.38%	18.46%
Teacher/Ancillary staff	56.67%	85.56%	28.89%	42.5%	71.25%	28.75%	66.6%	77.7%	11.1%	64.6%	80%	15.4%
Paraprofessional	26.44%	47.22%	20.78%	40.63%	51.63%	11%	50%	53.5%	3.5%	41.8%	58.1%	16.3%
Experience (≥10 years)	47.22%	69.44%	22.22%	46.38%	62.5%	16.12%	50%	69%	19%	51.31%	69.23%	17.92%
Experience (<10 years)	41.33%	69.67%	28.34%	38.62%	62.5%	23.88%	63.57%	65%	1.43%	56.15%	70%	13.85%

Table 5. SWIS Data

2016/17 (SEP to APR / 141 Days)		*2017/18 (FEB to APR / 54 Days)*		*2018/19 (SEP to APR / 122 Days)*	
T=927		**T=351**		**T=743**	
6.6 referrals per day		**6.5 referrals per day**		**6.1 referrals per day**	
Defiance	**32%**	**Defiance**	**38%**	**Defiance**	**43%**
Disruption	**2%**	**Disruption**	**4%**	**Disruption**	**11%**
Harassment	**2%**	**Harassment**	**1%**	**Harassment**	**2%**
Inappropriate Language	**11%**	**Inappropriate Language**	**14%**	**Inappropriate Language**	**18%**
Out of Bounds	**6%**	**Out of Bounds**	**23%**	**Out of Bounds**	**4%**
Physical Aggression	**45%**	**Physical Aggression**	**18%**	**Physical Aggression**	**20%**
Property Damage	**2%**	**Property Damage**	**3%**	**Property Damage**	**2%**
Inappropriate Affection	**1%**	**Inappropriate Affection**	**0%**		
Theft, Drugs, Lying, Bomb, and Weapon all combined with Inappropriate Affection		Theft, Disrespect combined with Harassment		Inappropriate Affection combined with Harassment	

Table 6. Social Validity

	Agree	**Disagree**	**Neutral**
The information in the modules was appropriate to the setting and student population?	90%	0%	10%
The information was appropriate to my individual skill level?	90%	0%	10%
The information was delivered in an effective way?	90%	5%	5%
My beliefs about behavior have changed?	40%	15%	45%
I think about behavior in terms of function more now than before the training?	85%	5%	10%

Table 6 continued

I was able to implement some aspects of the professional development into the classroom?	85%	5%	10%
This professional development caused me to reflect on my practices when addressing behavior?	75%	5%	20%
The professional development provided ample opportunities to practice skills and discuss behavior?	95%	0%	5%
I feel confident in completing the Competing Behavior Pathway form?	80%	0%	20%
I feel confident in completing the FACTS form?	85%	0%	15%
I feel confident in completing an ABC chart?	85%	0%	15%
I feel more comfortable with the FBA and BIP process?	85%	0%	15%
Average	82.08%	2.92%	15%

Table 7. BABS Building Responses Break Down

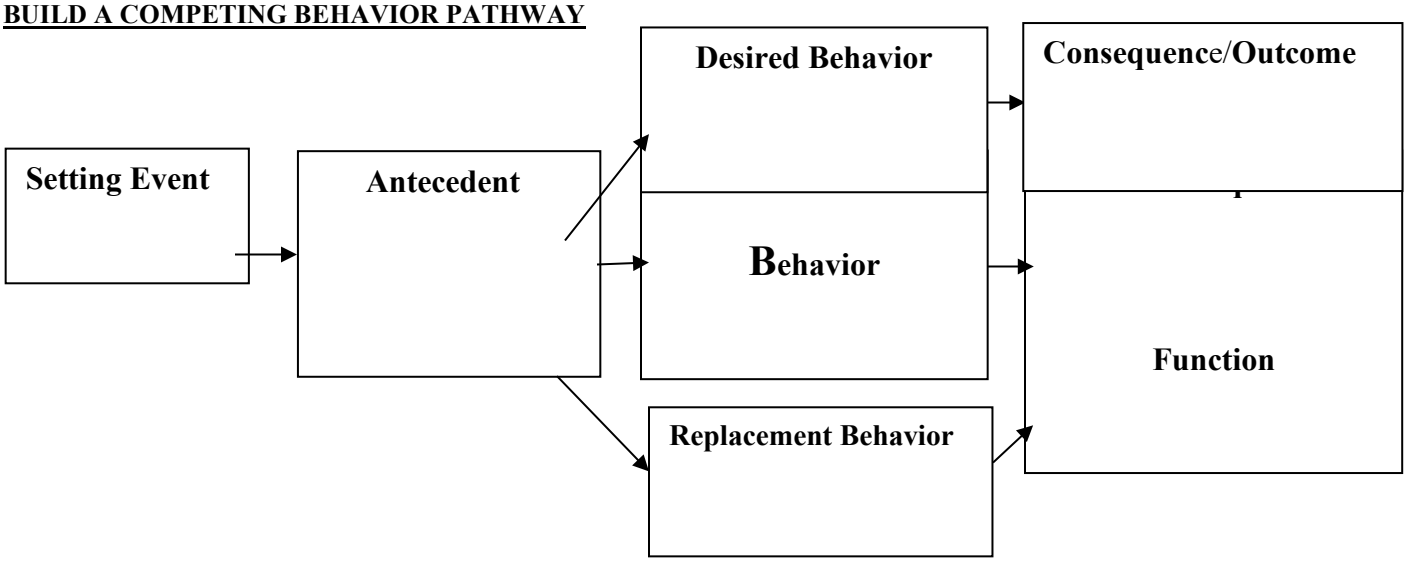
QUESTION	Agree		Disagree		Neutral	
	PRE	POST	PRE	POST	PRE	POST
As a school, our analysis of behavioral data leads to specific interventions.	30%	50%	40%	10%	30%	40%
We do a good job, as a school, of analyzing or examining behavioral data for individual students.	40%	60%	35%	20%	25%	20%
As a school, we do a good job of defining problem behaviors.	65%	60%	15%	10%	20%	30%
My coworkers are consistent in addressing behavior	20%	45%	55%	45%	25%	10%
There is administrative support when dealing with behavior	45%	80%	20%	5%	35%	15%
Our school uses evidence- based behavioral interventions	50%	70%	15%	5%	35%	25%
A school team should assist teachers in providing and monitoring behavioral interventions for students in the school	95%	95%	0%	0%	5%	5%
As a school, we need to work on defining problem behaviors.	95%	95%	0%	0%	5%	5%

Appendix B Competing Behavior Pathways

Student _____Grade_____ Date _____

School Case Manager _____

BUILD A COMPETING BEHAVIOR PATHWAY



IDENTIFY INTERVENTION STRATEGIES

Setting Event Strategies	Manipulate Antecedent to prevent problem & prompt Replacement/Desired behavior	Teach Behavior Explicitly Teach Replacement & Desired Behaviors	Alter Consequences to Reinforce Replacement & Desired Behavior; Redirect & Minimize Reinforcement of Problem Behavior
	Prevent problem behavior Prompt Replacement/Desired Behavior	Teach Replacement Behavior Teach Desired Behavior/ Academic/ Social Skills	Reinforce Replacement & Desired Behavior Desired Behavior: *Student will earn <ID incentive> if they get 80% or more points on their Daily Point Card* Redirect to Replacement Behavior & Minimize Reinforcement of Problem Behavior

Figure 1. Competing Behavior Pathways

Functional Assessment Checklist for Teachers and Staff (FACTS-Part A)

Student: _____ Grade _____ Date: _____
Staff Interviewed: _____ Interviewer: _____

STUDENT STRENGTHS: Identify at least three strengths or contributions the student brings to school.
Academic strengths -
Social/Recreational -
Other -

ROUTINES ANALYSIS: Where, When and With Whom Problem Behaviors are Most Likely.

Time	Routine/Activity & Staff Involved	Likelihood of Problem Behavior	Specific Problem Behavior	Current Intervention for the Problem Behavior
		Low High 1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		
		1 2 3 4 5 6		

PRIORITIZED ROUTINE: Select a routine with a rating of 5 or 6. Only combine routines when there is significant similarity in (1) activities (conditions) and (2) problem behavior(s). Complete the remainder of this page and FACTS-Part B for the prioritized routine identified below.

	Routines/Activities/Context	Problem Behavior(s)
Prioritized Routine		
If 3 or more routines are rated a 5 or 6, refer case to behavior specialist for a Complex FBA		

BEHAVIOR(s): Rank order the top priority problem behaviors occurring in the targeted routine above:

___ Tardy	___ Fight/physical Aggression	___ Disruptive	___ Theft
___ Unresponsive	___ Inappropriate Language	___ Insubordination	___ Vandalism
___ Self-injury	___ Verbal Harassment	___ Work not done	___ Other _____

Describe prioritized problem behavior(s) in observable terms:

What is the frequency of the Problem Behavior in the targeted routine (# x's /day or hour)?	
What is the duration of the Problem Behavior in the targeted routine (in seconds or min)?	
Is Behavior Immediate Danger to self/others?	**Y N** **If Yes, refer case to Behavior Specialist for a Complex FBA**

Adapted for Basic FBA to BIP by C. Borgmeier & S.Loman (2016) from March, Horner, Lewis-Palmer, Brown, Crone &

Specify the Target Routine: Use the prioritized routines from FACTS-Part A for assessment.

Routine/Activities/Context & Staff Name	Problem Behavior(s) – make description observable

ANTECEDENT(s): ***Rank Order*** **the strongest triggers/predictors of problem behavior in the routine above. Then ask corresponding follow-up question(s) to get a** ***detailed*** **understanding of triggers ranked #1 & 2.**

Environmental Features (*Rank order strongest 2*)		Follow Up Questions – *Get as Specific as possible*
___**a.** task too hard	___**g.** large group instruction	**If a,b,c,d or e** - describe task/demand in detail
___**b.** task too easy		
___**c**. bored w/ task	___**h.** small group work	**If f** - describe purpose of correction, voice tone, volume etc.
___**d.** task too long	___**i.** independent work	_____\
___**e.** physical demand	___**j.** unstructured time	**If g, h, I, j or k -** describe setting/activity/content in detail
___**f.** correction/reprimand	___**k**. transitions	_____
___Other	___**l.** with peers	
Describe _____	___**m**. isolated/no attention	**If l** – what peers?
		If m – describe -

CONSEQUENCE(s): ***Rank Order*** **the strongest pay-off for student that appears most likely to maintain the problem behavior in the routine above. Then ask follow-up questions to detail consequences ranked #1 & 2.**

Consequences/Function	As applicable -- Follow Up Questions – *Get as Specific as possible*
___ **a**. get adult attention ___ **b.** get peer attention ___ **c.** get preferred activity ___ **d.** get object/things/money ___ **e.** get sensation ___ **f**. get other, describe_____ _____ ___ **g.** avoid undesired activity/task ___ **h.** avoid sensation ___ **i.** avoid adult attention ___ **j.** avoid peer attention ___ **k.** avoid/escape other, describe _____	**If a or b** -- Whose attention is obtained? How is the (positive or negative) attention provided? **If c, d, e, or f** -- What specific items, activities, or sensations are obtained? **If g or h**- Describe specific task/activity/sensation avoided? Be specific, DO NOT simply list subject area, but specifically describe type of work within the subject area? Can the student perform the task independently? Y N Is academic assessment needed to ID specific skill deficits? Y N **If i or j** – Who is avoided? _____ Why avoiding this person?

SETTING EVENT(s): ***Rank*** **Order any events that happen outside of the immediate routine (at home or earlier in day) that commonly make problem behavior more likely or worse in the routine above.**
__ hunger __ conflict at home __ conflict at school __ missed medication __ illness __failure in previous class __ lack of sleep __change in routine __ homework not done __ not sure __ Other_____

SUMMARY OF BEHAVIOR

Fill in boxes below using top ranked responses and follow-up responses from corresponding categories above.

ANTECEDENT(s) / Triggers	Problem BEHAVIOR(s)	CONSEQUENCE(s)/ Function
Routine:		
Trigger:		
SETTING EVENTS		
How likely is it that this Summary of Behavior accurately explains the identified behavior occurring?		
Not real sure 1 2 3 4 5 6 100% Sure/No Doubt		

Adapted for Basic FBA to BIP by C. Borgmeier & S.Loman (2016) from March, Horner, Lewis-Palmer, Brown, Crone &

BABS (modified)

Welcome to the Educator's Beliefs about Behavior survey (modified version). Thank you for choosing to participate in the study. This survey asks your beliefs about student behavior within "Riverview Institute". This survey is part of my Ed.D. dissertation research on functional behavior assessments and behavior support plan training and implementation in schools. All responses will be kept confidential so please respond honestly. The first section asks questions regarding demographics and the second section examines beliefs about behavior. This survey takes approximately 15-30 minutes.

Demographics:			
1	What grade level(s) do you teach/work with this school year (2018/19)?	Closed	Check all that apply (List K-12)
2	How many years of experience do you have in your position at "RI"?		Open answer
3	What is the highest level or degree of schooling that you have completed?	Closed	High School Diploma / GED Associate Degree Bachelor's Degree Master's Degree Doctoral Degree
4	On a scale from 1 to 10, what is your experience with functional behavior assessments (FBAs)? 1 being no experience at all (no training and have never been involved in the FBA process) and 10 being very experienced (have formal training and completed or been involved in the FBA process several times).	Closed	Scale (1-10)
5	On a scale from 1 to 10, what is your experience with behavior support/intervention plans (BIP/BSP)? 1 being no experience at all (no training and have never been involved in the BIP/BSP process) and 10 being very experienced (have formal training and completed, implemented, or been involved in several BIPs/BSPs)	Closed	Scale (1-10)
6	Have you received FBA training before?	Closed	Yes (lead to) -College course -Professional development -Other (Specify) No

Below are statements relevant to beliefs about behavior. For each statement, please select the response that best shows how you feel. Please answer honestly. *All responses will be kept confidential. My research advisor at the University of Pittsburgh and I, are the only two that will see the responses. Individual responses will not be discussed with any individual at LEC or within Berrien RESA.* All representations of the data will appear in the aggregate to further protect individual confidentiality.

The first set of statements examines your individual beliefs about behavior within LEC. Please rate your level of agreement with the statement. Please think of statements that involve a student as a "typical" student at LEC. If you are new to LEC and are struggling with defining a "typical" LEC student, think about a "typical" special education student with an emotional impairment in your last work setting.

Perceived Notion		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
N	Respect involves mutual or reciprocal action between the staff and the students.					
N	If a student is not successful, it's most likely that the student is not motivated.					
P	Behavior problems can be prevented by posting expectations, teaching those expectations, and rewarding students when they exhibit those expectations.					
P	How students behave in my class is primarily due to the relationship I have with each student.					
N	It is unfair if some students receive individual incentives and rewards, while others do not.					
P	All my students are entitled to positive interactions with me, regardless of behavior problems.					
P	Proactive, positive behavioral interventions and strategies produce longer lasting behavioral change more than punishment-based strategies.					
N	I can tell the purpose of a behavior within a short period of time (5-10 minutes).					
P	Students who do not respond well to basic classroom management should receive evidence-based interventions to address their behavior					
P	Adolescent students with emotional and behavioral problems can respond well to school-based supports					
N	Every student being treated equally is more important than students receiving what they need to be successful.					
N	Motivational systems that provide outside rewards harm inner motivation.					
P	All behavior, negative and positive, serves a purpose.					
P	An incentive program is an important component to the classroom and an effective behavior support					

	program, so students can be provided with or earn access to items, activities, and/or privileges when they engage in desired behaviors.					
N	I do not have the time to implement individual interventions or behavior plans for students who engage in behavior problems.					
P	Praise and positive recognition are powerful tools to get students to behave well in school.					
P	There is a difference between individual interventions and whole classroom interventions.					
N	Sending students to supervised study is effective at changing their behavior.					
P	If I use effective behavioral strategies in my classroom, I can get 80%-90% of my students to meet behavioral expectations.					
P	How students behave in my class is primarily related to my classroom management strategies.					

Negative statement = 8
Positive statement = 12

This next section examines beliefs about behavior within LEC from a whole building perspective. Please rate your level of agreement to each statement from a whole building or entire emotional impairment program perspective. If you are new to LEC, answer the questions based on your experience so far in the building.

Question #		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	As a school, our analysis of behavioral data leads to specific interventions.					
	We do a good job, as a school, of analyzing or examining behavioral data for individual students.					
	As a school, we do a good job of defining problem behaviors.					
	My coworkers are consistent in addressing behavior					
	There is administrative support when dealing with behavior					
	Our school uses evidence based behavioral interventions					
	A school team should assist teachers in providing and monitoring behavioral interventions for students in the school					
	As a school, we need to work on defining problem behaviors.					

Basic FBA Checklist

Student School

FBA Case Manager__Date

Use this checklist to assess the technical adequacy of completed FACTS Interview documents: **Identify the FBA Interview documents reviewed to complete the checklist:** □ FACTS INTERVIEW w/ □ Teacher/Staff □ Student Other: _____				**SubScale Scores**
FBA Planning	**Yes**	**Sort Of**	**No**	**__/2**
Student Identification – Is student a good candidate for Basic FBA? • Does the student engage in dangerous behavior? Y N • Does student behavior occur in more than 3 school routines? Y N If answers above are YES, contact an Expert Behavior Specialist	2	1	0	
Critical Elements of the Functional Behavior Assessment (FBA)	**Yes**		**No**	**_/12**
Prioritized Routine (FACTS) – Was a thorough Routines Analysis completed leading to selection of an appropriate Prioritized Routine to focus on in the FACTS?	2	1	0	
Interviewee: Was the FACTS interview focused on the prioritized routine and completed with the person with primary responsibility for the student in the Prioritized Routine?	2	1	0	
Defining the Problem Behavior – Are problem behaviors clearly prioritized to identify level of concern and defined in a clearly observable and measurable way?	2	1	0	
Antecedent(s) – Are primary Antecedent (< 3) prioritized and described in sufficient detail to inform intervention planning (Difficult task is NOT detailed… more detailed = worksheet of double digit subtraction w/ borrowing)	2	1	0	
Consequence & Function – Have a primary consequence and function been prioritized & described in sufficient detail to inform intervention planning (Gains peer attention is NOT sufficient; describe whose attn & how it's delivered; e.g. whole class laughs at student)	2	1	0	
Final Summary of Behavior – Was a clear and detailed Summary of Behavior for the FACTS Interview completed using the prioritized A-B-C's in the FACTS Interview questions.	2	1	0	
Basic FBA Technical Adequacy Score				**___/14**

Basic FBA to BSP Checklist

Student School

FBA Case Manager__Date

Use the **Competing Behavior Pathway form** to complete this checklist assessing the technical adequacy of the BSP intervention suggested: **Identify the Basic FBA to BSP documents reviewed to complete the checklist:** □ Competing Behavior Pathway form				**SUBScale Scores**
Critical Elements of the Competing Behavior Pathway	**Yes**	**Sort Of**	**No**	**__/6**
Summary of Behavior – Was a detailed final Summary of Behavior accurately transferred to the Competing Behavior Pathway?	2	1	0	
Replacement Behavior – Identified Replacement Behavior(s) that provides same outcome/function as the problem behavior, are easy for the student to do, and are socially acceptable.	2	1	0	
Desired Behavior – Identified a Desired Behavior that is reasonable and as similar as possible to the expectations and norms of mainstream peers	2	1	0	
Suggestions for Function-Based Interventions	**Yes**		**No**	**_/16**
Documented two or more options for **Antecedent** interventions to prevent problem behavior that are *consistent with the student's identified trigger and the function of problem behavior*	2	1	0	
Documented two or more **Antecedent** interventions to Prompt appropriate behavior including a prompt to (a) use the Replacement Behavior & (b) support or encourage use of the Desired Behavior (or an approximation of)	2	1	0	
Documented explicit **Teaching** of suggested Replacement Behaviors	2	1	0	
Document strategies for teaching skills to support the student to engage (now or eventually) in the "Desired" behavior (or approximations of)	2	1	0	
Documented intervention to **Reinforce** student use of Replacement Behavior	2	1	0	
Documented two or more interventions to **Reinforce/Motivate** student use of identified Desired Behavior (or approximations of) that are paired with meaningful incentives that are regularly available & achievable for student.	2	1	0	
Documented strategies to **Redirect** the student to use the Replacement Behavior at the earliest signs of problem behavior	2	1	0	
Documented strategies that **Minimize Reinforcement of problem behavior**	2	1	0	
Basic BSP Competing Behavior Pathway Technical Adequacy Score				**___/22**

Interview Protocol

Inquiry Questions:

1) What are the staff's beliefs about behavior and their knowledge of the FBA and BSP process at Riverview Institute?
2) What barriers and enablers exist within RI in terms of the FBA and BSP process?

The responses to these interview questions, like all responses to tests and surveys used in this study will remain anonymous and results will not be shared with anyone at LEC or Berrien RESA. All data reported will be aggregated. Please be honest when responding. This first set of questions is going to examine some general information.

Interview Questions:

1) Have you previously received FBA or BSP training?

   Probe: Describe the training
   Probe: What were the highlights?
   Probe: Most useful / least useful?

2) As a school (EI program) what are your thoughts about our behavioral data analysis or how we look at behavior data?

Probe: Does this analysis lead to specific interventions?
Probe: What would you change?
Probe: What do we do well?
Probe: Team work?

3) Examining classroom practices in general, what percentage of students, 100% is every single student in your classroom, 0% is none of the students in the classroom, are having their social, emotional, or behavioral deficits addressed through evidence-based practices?

Probe: What are some of the practices?
Probe: Where do the practices come from?
Probe: How do you know that the practices are evidence-based?

This set of questions examines the behavior support plan process and choosing an appropriate behavioral, social, or emotional interventions. A large aspect of positive behavior supports, at the whole school model, is the integration of research-based practices that address social, behavioral, and emotional deficits. When examining individual students within this model, function-based interventions are essential to addressing these deficits; however, many factors can affect sustainability (Bambara, Goh, Kern, & Caskie, 2012).

4) What are the steps that you take when choosing a behavioral intervention for a student?

Probe: What factors do you consider?
Probe: Is it a team approach?
Probe: How is data collected?
Probe: Are adjustments made?

5) Barriers exist when implementing behavioral interventions in all settings. Could you describe a specific example at LEC when you implemented a behavioral intervention where you had to consider a major barrier when implementing the intervention?

Probe: How did you circumvent it? Did you?
Probe: Is it related to other barriers that exist?

Probe: Why do you consider that a barrier?
Probe: Was the barrier specific to LEC?

6) Just like barriers exist when implementing behavioral interventions, so do enablers or aspects that make implementing behavioral interventions successful. Could you describe a specific example, at LEC, when you implemented a behavioral intervention where there was an enabler present during the implementation of the intervention?

Probe: How was that an enabler?
Probe: Does that relate to the barrier?
Probe: How strong was the enabler?

This next section examines the FBA process that occurs within LEC. There is a wide variety of strategies that fall under the umbrella of FBA. The purpose of an FBA is to gather information about the functions of the behavior while considering environmental events that may alter that behavior. Two main FBA methods include indirect assessments that rely on self or proxy reports (questionnaires) with no direct observation and a direct assessment which is the direct observation of the behavior by a staff member (Oliver, Pratt, & Normand, 2015).

7) Which method do we rely more on here in this building?

Probe: Is it effective? Why or why not?
Probe: What are some barriers to its effectiveness?
Probe: What are some enablers to its effectiveness?

To effectively use an FBA in the typical classroom setting, some have made a case for scaling it down or simplifying the language and the overall process. Words and phrases such as operational definition of problem behavior, predictable antecedent-behavior-consequence chain, stimulus control, and operant function are common in the FBA process (Scott, Alter, & McQuillan, 2010).

8) With 10 being I can define and correctly use all the words and phrases mentioned above and 1 being I am completely unfamiliar with the words and phrases mentioned above, how would you rate yourself?

Probe: Why that number?
Probe: Do you feel like that is a barrier?
Probe: Do you think that it can be scaled down or simplified?

9) FBAs are used to find the function of a behavior or the reason behind a behavior. Do you think about behavior in terms of function or what is the reason behind the behavior?

Yes
Probe: Could you explain the process you go through
Probe: How confident do you think you are with the function of a behavior?
Probe: How accurate are you with the perceived function of the behavior?

No
Probe: Could you explain the process you go through
Probe: What other factors do you consider?

This next section examines your beliefs about behavior. Teacher's attitudes before implementation of training could assist with addressing aspects of fidelity associated with program implementation along with tracking changes in perceptions over the course of the training (Beets, Flay, Vuchinich, Acock, Li, & Allred, 2008). Along with this, teacher attitudes and beliefs are crucial when examining classroom practices (Richardson, 1996).

10) What do you think is the most frequent behavior seen at LEC this year or last year?

Probe: Could you define that behavior?
Probe: Why do you say that?
Probe: Is the behavior being addressed at all in the building? How?

11) Last school year (2017/18) recorded in SWIS data was a total of 218 behavioral referrals. Most of the referrals were considered "other" or a self-time out. Defiance, at 43 referrals was the 2nd largest category. What is your definition of defiance?

Probe: What influences that definition? Were you told that definition by a staff member?
Probe: Do you think that it matches other staff members definition? Confidence level scale of 1 (not at all) to 10 (matches exactly) that it matches others.

12) Another behavioral referral term that is frequently brought up during meetings is "non-compliance". How would you define this term?

Probe: What influences that definition? Were you told that definition by a staff member?
Probe: Do you think that it matches other staff members definition? Confidence level scale of 1 (not at all) to 10 (matches exactly) that it matches others.
Probe: Is compliance an important part of our school? Why or why not.

13) One of the categories that you can fill out on the behavioral referral sheet that goes directly into SWIS is the perceived motivation of the behavior. When you fill out that portion, how important is that category to you, 1 being not important at all and 10 being crucial to the referral sheet?

Probe: Why that number?
Probe: What factors influence that?

14) Also, last school year (2017/18) recorded in SWIS data was 68 referrals where the perceived motivation of the behavior was to avoid the task, 28 referrals referenced avoiding the adult, and 12 referrals were because the student was avoiding a peer. Do any of these numbers surprise you?

Probe: Why or why not?
Probe: Do you think that it is accurate?

15) Teacher beliefs can be defined as convictions that influence classroom practices. Teacher practices can be defined as the tangible aspects that are implemented in each individual classroom. Whole school approach can be defined as policies and practices that the whole building shares. Out of teacher beliefs (convictions), teacher practices (things done in the classroom), or whole school approach (as a whole school) which area do all staff share the most common responses or is the most cohesive across the entire building?

Probe: Why that area?
Probe: Could you expand on your thought process
Probe: Rank all 3. 1 is the area we share the most in common to 3 area we are the furthest apart as a staff

Social Validity Measurement

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The FBA and BIP trainings were beneficial to the school?					
The forms used in the trainings fit easily into my classroom practices?					
I am confident in conducting a basic FBA?					
I am confident in turning the FBA information into a BIP?					
The trainings provided an opportunity to reflect on my teaching?					
FBAs and BIPs will benefit students in our building?					
I am confident in analyzing FBA data?					
I am confident in analyzing BIP data?					
Additional Comments					

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