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With a loving and grateful heart, I dedicate this dissertation to my beloved mother, may Allah bless her soul. To my angel mother whose loving spirit still sustains me.

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ABSTRACT

The concern about young children challenging behaviors has produced a wide range of intervention programs to reduce problem behaviors and promote development of social skills. Over the past two decades, researchers have demonstrated that adoption of Positive Behavior Support (PBS) can effectively reduce the frequency and severity of challenging behavior and result in positive behavioral outcomes. Despite research support for Functional Behavioral Assessment (FBA) and function-based behavior interventions, there is a growing concern that current practices do not meet the recommended standards for FBA procedures and that school personnel are not well prepared to conduct valid FBA and design and implement successful Behavior Intervention Plans (BIPs). Thus, this study sought to provide a descriptive analysis of current FBA practices in Qatar and to shed light on issues related to professional development needs of school personnel in FBA and positive behavior intervention strategies. The Special Education In-Service Needs Assessment, the Positive Behavior Supports Implementation Survey, the FBAs/BIPs Analysis Rating Scale, and Demographic Survey were the primary data sources for this study. Participants for the study were 168 instructional and clinical professionals as well as paraprofessionals working directly with students with intellectual disabilities at Shafallah Center. The study findings revealed the technical adequacy of the analyzed FBAs/BIPs was unsatisfactory and most FBAs contained many faults that resulted in improperly designed and ineffective BIPs. Further, participants perceived FBA and restraint procedures as a high professional development need. Recommendations for how to best use study findings in provision of training in FBA and function-based behavior interventions in Qatar were discussed.

CHAPTER 1: Introduction

The field of special education is at a defining moment as schools are faced with the challenge of educating and supporting all needs of each student across academic, social, and behavior domains (Collins, Hawkins, & Nabors, 2016; Marston, Muyskens, Lau, & Canter, 2003; Netzel & Eber, 2003; Simonsen et al., 2010; Torgesen et al., 2001; Turnbull et al., 2002; Vaughn, Linan-Thompson, & Hickman, 2003). Concurrently, there has been a significant increase in the number of students referred to special education services in recent years (U.S. Department of Education, 2016). A substantial proportion of students receiving special education services exhibit challenging and serious problem behaviors (Scott, Anderson, & Spaulding, 2008). Further, research studies have demonstrated that positive outcomes for young children with disabilities are compromised by problem behaviors and that discipline problems and challenging behaviors continue to be a major barrier to young children's learning (Campbell, 2002; Campbell, Spieker, Burchinal, Poe, & NICHD Early Child Care Research Network, 2006; Carver & Lewis, 2010; Kaiser, 2007; Kauffman & Landrum, 2013; Turton, Umbreit, & Mathur, 2011).

Problem behaviors can disrupt the learning environment and impact all aspects of the student's academic life. Such behaviors can be described on a continuum of various intensity or severity from minor behaviors that may disrupt classroom routines, such as calling out in the in class, noncompliance, tantrums, and bullying, to severe behaviors such as aggression, vandalism, and violent behaviors that may impact safety in the classroom environment (Kauffman & Landrum, 2013; Strain & Timm, 2001). Most important is the long-term, undesirable trajectories of young children with challenging

behaviors that continue into adolescence and adult life (Kroes et al., 2002; Leone & Weinberg, 2010). Young children with challenging behaviors are at a greater risk for placement in special education programs, school failure, substance abuse, unemployment, and psychiatric illness (Tremblay, 2000; Windle & Mason, 2004). Without intervention, children with challenging behaviors are at a greater risk of developing increased difficulties impeding their ability to learn and develop social skills (Powell, Dunlap, & Fox, 2006; Webster-Stratton & Reid, 2003). Research studies showed that when problem behaviors are not identified early and appropriate intervention were not delivered, these behaviors increase in rate and severity requiring more intensive intervention over time (Lucyshyn, Dunlap, & Albin, 2002; Schalock, Baker, & Croser, 2002; Trembley, 2000; Wagner, Cameto, & Newman, 2003; Wehby, Lane, & Falk, 2003).

The issue is the continuing increase in aggressive and challenging behaviors in the schools (Kaiser, Cai, Hancock, & Foster, 2002; Turnbull, Edmondson, Griggs, Wickham, Sailor, Freeman, & Warren, 2002; Webster-Stratton, 1997). Research literature reports an alarming increase in the number of young children with challenging behaviors (Webster-Stratton, 1997; Webster-Stratton, 2000). Between 7% - 25% of preschool-age children are diagnosed with oppositional defiant disorder (Webster-Stratton, 2000). Additionally, research studies reported that 10% to 20% of young children in preschool programs display moderate to severe levels of behavioral problems (Anthony, Anthony, Morrel, & Acosta, 2005; Feil, Walker, Severson, & Ball, 2000; Kupersmidt, Bryant, & Willoughby, 2000; Qi & Kaiser, 2003). In a study that examined the frequency of antisocial behaviors in a normative sample of preschoolers enrolled in 49 Head Start centers in North Carolina using teacher report, teachers reported that 40% of preschoolers exhibited at least one

antisocial behavior daily (Willoughby, Kupersmidt, & Bryant, 2001). Types of antisocial behaviors reported include arguing/disagreeing behavior, pinching/biting, hitting, and kicking, pushing and shoving, and calling names. Further, the study demonstrated that only a small percentage (10%) of preschoolers exhibit high rates (six or more antisocial behaviors/day) of antisocial behavior. Also, educators report that one out of five students exhibit problem behaviors of severity that necessitate intervention (Myers, & Holland, 2000). A contributing factor that adds to the consequences of problem behaviors is the fact that many children with challenging behaviors often have deficits in social skills (Stormont, Beckner, Mitchell, & Richter, 2005). Thus, many children come to school lacking the prerequisite skills for academic success in school (Stormont, 2007).

Without intervention, the presence of challenging behaviors in young children contributes to unfavorable outcomes in school and later in life (Algozzine, Audette, Ellis, Marr, & White, 2002; Campbell, 1995; Stormont, 2001; Sutherland & Wehby, 2001; Webster-Stratton, 2000; Wheby, Lane, & Falk; 2003). Many children with challenging behaviors often are excluded or expelled from early childhood settings (Gilliam, 2005; Raver & Knitzer, 2002). Research studies showed that the expulsion rate in publically funded preschool programs is 3 times higher than the expulsion rate for K-12 students (Gilliam, 2005). Moreover, results from the National Longitudinal Transition Study–2 (NLTS) demonstrated that children with severe behavior disorders had the lowest grade point average compared to children with other disabilities (Wagner, Cameto, & Newman, 2003). The NLTS also reported that children with behavior disorders have the highest dropout rate and that only one third of children with behavior problems completed high school. According to the U. S. Department of Education (2006) approximately 60% of

students with behavior disorders drop out of schools. Moreover, problem behaviors often jeopardize the quality of education of children with disabilities (Gable, Hendrickson, Tonelson, & Van Acker, 2002). These behaviors have a negative effect on both the educator's ability to teach and the student's ability to learn (Nelson, Crabtree, Marchand-Martella, & Martella, 1998; Rutherford, Quinn, & Mathur, 2004; Sutherland & Wehby, 2001; Wehby, Lane, & Falk, 2003).

The concern about young with children challenging with behaviors has produced a wide range of intervention programs to reduce problem behaviors and promote development of social skills (Dunlap, Ester, Langhans, & Fox, 2006; Gutkin, 2012; Lane, Kalberg, Bruhn, Driscoll, Wehby, & Elliott, 2009; Luiselli, Putnam, Handler, & Feinberg, 2005; Raver & Knitzer, 2002; Strain & Timm, 2001; Tremblay, 2000; Qi & Kaiser, 2003). During the past decade, there has been a shift in the practices of addressing problem behaviors of young children with disabilities from a reactive and aversive approach to an approach that is positive and proactive. This shift is evident in the research literature that emphasizes the use of positive, proactive strategies to address challenging behaviors (Benner, Kutash, Nelson, & Fisher, 2013; Boneshefski & Runge, 2014; Bradshaw, Waasdorp, & Leaf, 2012; Burke, Davis, Hagan-Burke, Lee, & Fogarty, 2014; Burk, Davis, Lee, Hagan-Burke, Kwok, & Sugai, 2012; Carter, Carter, Johnson, & Pool, 2013; Chitiyo, May, & Chitiyo, 2012; Collins, Hawkins, & Nabors, 2016; Conroy, Dunlap, Clarke, & Alter, 2005; Flannery, Frank, Cato, Doren, & Fenning, 2013; Fox, Dunlap, & Powell, 2002; Lane et al., 2009; Leff, Waasdorp, & Paskewich, 2016; Mathews, McIntosh, Frank, & May, 2014; Mitchell, Adamson, & McKenna, 2017; Powell, Fixsen, Dunlap, Smith, & Fox, 2007; Stormont, Covington, & Lewis, 2006;

Wills, Kamps, Fleming, & Hansen, 2016). Over the past fifteen years, researchers have demonstrated that the most effective approach to address problem behavior of young children is through adoption of a service delivery model that focuses on prevention of challenging behavior, supporting children's appropriate skills, and promoting social-emotional development (Boneshefski & Runge, 2014; Bradshaw, Waasdorp, & Leaf, 2012; Burke, Davis, Hagan-Burke, Lee, & Fogarty, 2014; Cale, Carr, Blakeley-Smith, & Owen-DeSchryver, 2009; Dunlap et al., 2003; Dunlap, Ester, Laughans, & Fox, 2006; Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003; Kaiser, 2007; Powell, Dunlap, & Fox, 2006; Powell, et al., 2007; Simonsen, Sugai, & Negron, 2008; Sugai et al. 2000). A promising approach to addressing young children's problem behaviors that is grounded in empirical research is Positive Behavior Support (PBS) (Muscott, Mann, Benjamin, & Gately, 2004; Sugai & Homer, 2006). PBS is a proactive and prevention-centered approach to addressing challenging behaviors that focuses on promoting appropriate behaviors in all students and changing behaviors across many different types of settings (Benner, Kutash, Nelson, & Fisher, 2013; Mitchell, Adamson, & McKenna, 2017; Warren et al., 2006).

PBS is an alternative approach to the traditional punitive disciplinary measures in the management of students' problem behaviors. The main goal of PBS is to understand the reasons for behaviors and help children to develop skills to meet their needs through appropriate means, which will reduce problem behaviors (Benner, Kutash, Nelson, & Fisher, 2013; Sugai, Horner, Dunlap, Hieneman, Lewis, & Nelson, 2000). Although PBS was originally developed for children with severe disabilities who demonstrate extreme types of self-injurious and aggressive behaviors, a plethora of research studies showed

that PBS is effective for all children with challenging behaviors including children with emotional and behavioral disorders (EBD) and severe emotional disturbance (SED) (Bambara & Kern, 2005; Boneshefski & Runge, 2014; Bradshaw, Waasdorp, & Leaf, 2012; Burke, Davis, Hagan-Burke, Lee, & Fogarty, 2014; Fox & Nancy, 2001; Gettinger & Stoiber, 2006; Lane, Kalberg, & Edwards, 2008; Safran & Oswald, 2003; Scott, 2001; Sugai et al., 2000; Taylor-Greene, Susan, Kartub, & Douglas, 2000).

Definition of Positive Behavior Support

The definition of Positive Behavior Support has been elaborated on by many researchers and scholars and research literature provides a wide range of definitions for PBS (Carr et al., 1999; Carr et al., 2002; Koegel, Koegel, & Dunlap, 1996). PBS has been defined as a "general term that refers to the application of positive behavioral interventions and systems to achieve socially important behavior change" (Sugai, Horner, Dunlap, Hieneman, Lewis, Nelson, et al., 2000, p. 133). Carr et al. (2002) defined PBS as "an intervention technology based on social, behavioral, and biomedical science that combines evidence-based practices with formal systems change strategies focused on both improving the valued lifestyle options available for an individual and reducing problem behaviors". Another definition that reflect the outcome as well as the intervention strategies used with PBS was cited by Dunlap & Carr (2007) as "a broad approach for organizing the physical, social, educational, biomedical, and logistical supports needed to achieve basic lifestyle goals while reducing problem behaviors that pose barriers to these goals" (p. 470). A more recent definition of PBS has been articulated by Clarke & Dunlap (2008) as a "pragmatic approach based on behavioral and biomedical sciences for enhancing the quality of life and reducing the problem behaviors

of individuals with challenges of behavioral adaptation" (p. 67). These definitions reflect a view of PBS as an applied science that utilizes educational methods (instruction) and system change methods (environmental redesign) to reduce problem behaviors and enhance quality of life for individuals of all ages and disabilities.

The term "positive behavior" in PBS refer to "all those skills that increase the likelihood of success and personal satisfaction in normative academic, work, social, recreational, community, and family settings" (Carr et al., 2002). The term "support" refers to the variety of educational, therapeutic, and system-wide strategies that is used to teach and strengthen positive behavior (Carr et al., 2002). Thus, the primary goal of PBS is to promote positive behavior and enhance the quality of life not just of the individual child, but of all relevant stakeholders involved in the program (teachers, parents, siblings, and peers/friends). In PBS "the specific needs and goals of the individual drive the creation of new service matrices that are carefully tailored to address the unique characteristics of the individual. Specific individual needs are considered within the context of normalization and inclusion to produce an intervention plan that emphasizes community participation, meaningful social relationships, enhanced opportunities for choice, creation of roles that engender respect from others, and continued development of personal competencies" (Carr et al., 2002, p. 6). A secondary, yet important, goal of PBS is to minimize or eliminate problem behaviors (Carr et al., 2002).

PBS is an evidence-based multi-level framework that is often referred to as Positive Behavioral Interventions and Supports (PBIS) (Reinke, Splett, Robeson, & Offutt, 2009). The implementation of PBS in the K-12 settings is referred to as School-Wide Positive Behavior Support (SWPBS), while the implementation of PBS in early

childhood settings is referred to as Program-Wide Positive Behavior Support (PWPBS) (Frey, Lingo, & Nelson, 2008). The primary goal of SWPBS is to establish a school environment that addresses problem behavior in a positive and preventative manner (Sugai & Horner, 2006).

Historical Background and Evolution of PBS

There are three major sources that served as catalysts for the evolution of Positive Behavior Support as a distinct approach to address challenging behaviors: 1) the normalization/inclusion movement, 2) the empirical foundation of Applied Behavior Analysis (ABA), and 3) person-centered values (Carr et al., 2002). During the 1970's and 1980's, there were a number of trends that led to the rising concern among professionals as well as policy makers on the use of aversive treatment to manage challenging problem behaviors of children with developmental disabilities (Newsom & Kroeger, 2005). The civil rights movement set the stage for the heightened awareness of the rights of all minorities including people with developmental disabilities. This is evident in the historic Wyatt vs. Stickney lawsuit that was filed in 1970 with regard to the inhumane treatment and conditions in Alabama's mental health facilities (Newsom & Kroeger, 2005). The importance of this historic law suit is that it established the right to due process for the protection of people with developmental disabilities from aversive behavior management interventions. By the end of the 1980's, advocacy and policy initiatives served as a catalyst for promoting community and educational inclusion for people with disabilities (Dunlap, Sailor, Horner, & Sugai, 2008).

Along with the inclusion movement, the empirical basis for Applied Behavior Analysis (ABA) in the 1970's and 1980's provided many number of empirical research studies on the limitations of aversive treatments in the management of problem behaviors (Axelrod & Apsche, 1983; Johnson & Baumeister, 1978; Lennox, Miltenberger, Spengler, & Erfanian, 1988; Matson & Taras, 1989). School administrators and educators were expected to respond more effectively by adopting various forms of school disciplinary measures. Most school disciplinary measures involved the use of different forms of punitive actions such as removals from the classroom, suspensions from school, and expulsions (Magg, 2001). Teachers often choose punitive interventions for students' problem behaviors that interfere with teacher routines (Ishii-Jordan, 2000). Relying on reactive disciplinary measures has a predictable outcome as administrators and teachers experience immediate reduction or removal of the problem behavior when they use strong aversive consequences. Having experienced reductions and relief from student problem behavior, they are more likely to use reactive measures when future student problem behavior occurs. Unfortunately, these reductions are temporary and problem behaviors typically reoccur, sometimes at higher rates and more intense levels (Turnbull et al., 2002).

The movement towards non-aversive interventions to manage problem behaviors was a consequence of the dissatisfaction with the outcomes of aversive and punitive intervention measures and the availability of other non-aversive alternatives to behavior management (Carr, Newsom, & Binkoff, 1980; Iwata, Dorsey, Slifer, Bauman, & Richmond, 1982). This movement to non-aversive treatment of problem behaviors continued from the early 1980's to the mid 1990's (Newsom & Kroeger, 2005). Further,

the movement toward non-aversive treatment signifies a change in the philosophy in management of problem behaviors from “controlling the behavior” to “supporting the behavior”.

From applied behavior analysis, PBS utilizes such concepts as the "three-term contingency" (stimulus-response-reinforcing consequence), as well as the concepts of stimulus control, generalization, and maintenance (Carr et al., 2002; Dunlap, 2006; Sugai & Horner, 2002). The "three-term contingency" is rooted in the work of the famous behavioral scientist B. F. Skinner who believed that, in order to analyze human behavior, every behavior must be broken down into three parts: discriminative stimulus, operant response, and reinforcers/punisher (Skinner, 1953). This three-term contingency is fundamental to the study of operant conditioning. In fact, Skinner’s work on reinforcement is central to the issue of behavior management today, more specifically his definition of the various schedules of reinforcement (interval, fixed, and ratio reinforcement) (Skinner, 1954). According to Skinner, the most critical factor in controlling behavior is arranging proper reinforcement contingencies in the environment (Skinner, 1953). ABA encourages the use of appropriate reinforcement strategies as the main method of behavior management, consistent delivery of reinforcement, target behaviors that are clearly defined and achievable, and opportunities to practice appropriate behaviors (Alberto & Troutman, 2002; Slavin, 2003). All of these are important factors in any effective PBS program. ABA is also responsible for a variety of educational methods used in PBS for reducing problem behavior (Carr et al., 2002).

Carr et al. (2002) described PBS as a “melding of values and technology in that strategies are judged not only with respect to efficacy (a technological criterion) but also

with respect to their ability to enhance personal dignity and opportunities for choice (a values criterion)". As an approach, PBS steers clear of the use of strategies that are deemed to be dehumanizing or degrading to the individual with behavior problems. Thus, person-centered values are central to PBS strategies and interventions. Interventions within PBS are individualized to meet the unique goals and needs of the person with behavior problems. Positive behavior support plans encourage community involvement, individual choice, and developing self-respect. Individuals are also encouraged to set personal goals and be their own advocate. Further, in contrast to the program-centered planning where pre-existing services are provided to individuals with disabilities, PBS ascribed to the notion of person-centered planning in that services are individualized and interventions are set to meet the specific needs and goals of the person with a disability (Carr et al., 2002). By determining what motivates particular undesirable behaviors, PBS uses this information to develop personalized support strategies to promote more acceptable behavior and optimize the person's function in general education and community settings. In fact, person-centered planning is reflected in the assessment part of PBS which centers on identifying personal characteristics, preferences, abilities, and strengths that increase a person's success (Duda, Dunlap, Fox, Lentini, & Clarke, 2004; Dunlap & Kincaid, 2001; Fox; Dunlap, & Cushing, 2002; Killu, 2008).

Theoretical Framework of Positive Behavior Support

Positive Behavior Support (PBS) has its origin in behavior analysis, more specifically in Applied Behavior Analysis (ABA) which provides the theoretical framework for strategies and interventions used within PBS (Carr et al., 2002; Dunlap, 2006; Dunlap, Carr, Horner, Zarcone, & Schwartz, 2008; Filter, 2007; Horner, 2000;

Tincani, 2007). ABA, which has been considered as an expansion to the principles of operant psychology, provides the basis for understanding and changing problem behaviors (Carr et al., 2002; Dunlap et al., 2008). ABA, established as a science in the 1960's, is defined as "the systematic or scientific application of behavioral or operant psychology to solve problems of social importance or significance" (Bambara & Kern, 2004, P. 4). In other words, in ABA principles of learning are applied in a systematic way to produce socially acceptable changes in behavior. On the other hand, PBS was developed in the late 1980's as an intervention approach to "apply behavioral principles in the community in order to reduce problem behaviors and build appropriate behaviors that result in durable change and a rich lifestyle" (Carr et al., 1999, p. 3).

Much of the strategies and principles used within Positive Behavior Support are rooted in ABA and other disciplines including behavior psychology for the purpose of understanding and reducing problem behaviors (Carr et al., 2002). More specifically, strategies and procedures used at the individual level including FBA and BIP (Dunlap, 2006). Such procedures utilized within PBS as manipulations of antecedents, utilization of direct observation for evaluation, functional analysis, and functional assessment which are representative of principles of instrumental learning in ABA. Further, Functional Behavior Assessment (FBA) is based on the principles of operant conditioning of B. F. Skinner that behavior is reinforced by events operating in the environment (Skinner, 1954). According to Skinner, changes in behavior are achieved through the individual's response to the events (stimuli) that occur in the environment. This response yields a consequence and when a specific Stimulus-Response (S-R) pattern is reinforced, the individual is conditioned to respond. Yet, interventions within the positive behavior

supports utilize a more collaborative and holistic framework (Safran & Oswald, 2003). PBS takes into account the broad range of pertinent variables that affect the individual's behavior. Thus, within PBS behavior "is viewed as an interaction between the environment and the child" (Safran & Oswald, 2003, p. 361). PBS strategies extend beyond the individual with challenging behavior to include specific groups of students, particular school settings, and the whole school. Further, collaborative teams are a crucial element of PBS in which teachers, special educators, related services personnel, and administrators collaborate in the implantation and evaluation of intervention strategies.

Legislative Support for Positive Behavior Support Plans

The increasing concern among professionals working with children with disabilities and policy makers regarding the serious consequences of challenging behaviors in young children has been translated into legislative support for appropriate behavioral intervention (Kennedy, Long, Jolivettel, Cox, Tang, & Thompson, 2001; Langdon & Vesper, 2000; Rose & Gallup, 1999). The 1997 amendment of the Individuals with Disabilities Education Act (IDEA) was reauthorized in response to the growing concern about challenging behaviors of students with disabilities in educational settings. In the 1997 amendment of IDEA, Local Education Agencies (LEAs) were required to use positive behavior supports for students identified for special education placement and those who are at risk for special education placement (Kennedy et al., 2001). The most significant revision in the behavior discipline provision is the legal requirement for the use of Functional Behavior Assessment (FBA) and development of Behavior Intervention Plan (PIB) with Positive Behavioral Interventions Supports (PBIS) [IDEA '97, 615 (k)(1)(B)]. Even though this was a historical mark in the history of

special education as it relates to addressing the student's problem behavior within the context of legislation, FBA and PBIS was not clearly defined either in the statute of IDEA 1997 nor in its regulations (Dunlap & Kincaid, 2001). In addition, there were no specific guidelines or procedures that schools could follow in order to provide and implement positive behavior support. As a result, a plethora of research attempted to provide interpretation, explanation, and a framework for the process of FBA (Bradley, 1999; Repp & Horner, 1999; Sugai et al., 2000; Tilly, Knoster, Kovaleski, Bambara, Dunlap, & Kincaid, 1998; Turnbull, Wilcox, Stowe, Raper, & Hedges, 2000).

The 2004 reauthorization of the Individuals with Disabilities Education Act (IDEA) [IDEA, 2004 U.S.C. § 1414 (d)(3)(B)(i)] continued the emphasis on the use of FBA and BIP while providing a requirement for schools to develop and implement behavior intervention plans under specific circumstances " (a) student's behavior impedes his or her own or others ability to learn; (b) when behavioral goals on the IEP are not sufficient to address problem behavior; (c) prior or subsequent to a manifestation determination meeting (student suspended in excess of ten days); and (d) when a student is placed involuntarily into a more restrictive placement due to behavior." (Cook, Crews, Wright, Meyer, Gale, Kraemer, & Gresham, 2007, p. 192). In addition, IDEA 2004 requires FBA prior to the development and implementation of a BIP for students with disabilities with behavior challenges that affect their learning. The FBA mandate in IDEA signifies a change in practice from one dimensional approach that focuses on either increasing the desired responses or eliminating problem behavior, to a multi-dimensional approach that focuses on "examining the contextual variables that set the occasion for problem behavior, linking assessment results to intervention planning, and seeking to

develop positive instructional or behavioral strategies and supports to address more appropriate and functional skills" (Killu, 2008, p. 141). IDEA also mandate that the data collected from FBA should provide the groundwork upon which the BIP is developed. Thus, the most important implication for IDEA is that it established BIP as an "important component guiding the delivery of special education services for a long time to come" (Cook et al., 2007, p. 192).

Features of Positive Behavior Support

The primary focus of PBS is on rearranging the environment to enhance lifestyle and improve quality of life of the individual rather than working directly on reducing problem behavior (Dunlap et al., 2008). This approach represents a major shift from the pathology-based model that focuses on "fixing" behavior problems to a more positive model that focuses on "personal competence and environmental integrity" (Carr et al., 2002). This shift is evident in PBS strategies that focus on identifying a wide range of relevant variables that might affect a person's behavior including both the behavior and environmental aspects. Thus, unlike the pathology-based model, PBS integrates both the biological and social events that might affect occurrence of behavior across a wide range of contexts (Gutkin, 2012; Kennedy & Thompson, 2000).

Many scholarly writings and critiques has been published that viewed PBS as a distinct discipline (Carr et al., 2002; Dunlap et al., 2008). Although ABA has been identified as a fundamental foundation of practices within PBS, a number of features have established PBS as a unique and distinct discipline (Carr et al., 2002). These distinctive features include: 1) comprehensive life style change and improved quality of

life; 2) emphasis on prevention; 3) social and ecological validity; 4) multiple stakeholder participation; 5) systems change and multi-component intervention (Carr et al., 2002).

By definition, the end result of PBS is to support individuals with challenging behaviors to achieve comprehensive lifestyle change and improve quality of the life not just for the individuals with challenging behaviors but also for those who support them (Carr et al. 2002; Dunlap, 2006). A critical feature that distinguishes PBS is the primary goal of intervention to improve the individual quality of life. Reducing problem behaviors, though important, is a secondary goal in PBS. As a comprehensive approach to lifestyle change, PBS not only addresses problem behaviors of the child but also addresses social relationships, functional communication, recreation and leisure, self-determination, and community integration (Bambara & Kern, 2005; Carr et al., 2002; Clarke & Dunlap, 2008; Dunlap & Carr, 2007; Dunlap, Ester, Langhans, & Fox, 2006; Feldman, Condillac, Tough, Hunt, & Griffiths, 2002; Koegel & Koegel, 2006). Along with the lifestyle change, an important characteristic of PBS is the notion of "lifespan perspective" (Carr et al., 2002). PBS assist the individual with problem behavior to successfully transition from preschool to school and ultimately to workplace and employment.

A critical key in the management of young children with challenging behavior is early intervention. Carr and colleagues (2002) affirmed that "the best time to intervene on problem behavior is when the behavior is not occurring". This notion is reflected in the proactive nature of PBS that sets it away from traditional reactive approaches to addressing problem behaviors. Emphasis on prevention of problem behaviors is one of the most critical features of PBS. PBS is in contrast to previously used school discipline

interventions that focused primarily on reacting to specific student misbehavior by implementing punitive strategies (i.e. reprimands, loss of privileges, office referrals, suspensions, and expulsions) and were ineffective. PBS utilizes positive strategies that focus on teaching behavioral expectations and reinforcing positive social behavior to prevent the occurrence of problem behaviors as well as creating a climate in which appropriate behavior is the norm. Further, embedded within the definition of PBS is the focus on skill building and environmental design to produce the desirable change for challenging behaviors (Carr et al., 2002; Clarke & Dunlap, 2008; Dunlap & Carr, 2007; Sugai et al., 2000). PBS utilize skill building strategies to prevent problem behaviors by building social skills, functional communication, and self-management skills (Bambara & Kern, 2005; Dunlap, Ester, Langhans, & Fox, 2006; Feldman et al., 2002). With respect to environmental design, PBS utilizes proactive strategies that focus on prevention of problem behaviors by improving decision-making opportunities and restructuring curricula (Feldman et al., 2002).

Another critical feature of PBS is social and ecological validity. Ecological validity refers to the notion that "interventions must possess ecological validity, in that strategies of intervention and support must be feasible in, relevant to, and effective in real-life settings and situations" (Dunlap et al., 2008). Ecological validity is consistent with PBS ascribing to the principles of the normalization/inclusion movement that focuses on the rights of persons with disabilities and integration within the community. As an approach, PBS is concerned with the individual's functioning within the natural context of the community. Thus, PBS intervention strategies focus on changing behaviors across many different types of settings (e.g. home, school, workplace, and community).

In other words, “the focus of the PBS approach concerns how applicable the science is to real-life settings” (Carr et al., 2002).

Social validity is central to the design and implementation of services in PBS. Social validity refers to “the extent to which consumers (e.g., teachers, parents, and students) view a given practice as addressing socially significant goals, socially acceptable treatment procedures, and socially important intervention outcomes” (Lane et al., 2009). Dunlap and colleagues (2008) reaffirmed that social validity “is a primary and pervasive criterion of effective procedures and intended outcomes”. There are three concepts of the social validity of intervention strategies within PBS: a) practicality, b) desirability, and c) effectiveness (Carr et al., 2002). Practicality refers to feasibility of implementation (i.e. the degree to which an intervention strategy is easy to implement). In other words, practicality looks at the relevant stakeholders’ perception of whether they are able to use/implement the intervention strategy. Desirability, on the other hand, refers to the stakeholders’ willingness to use the strategy. It also refers to the degree to which the intervention strategy is perceived to be positive as oppose to punitive or aversive. Finally, the perceived effectiveness of the social validity of an intervention strategy refers to the fact that the strategy should make a significant difference in the lifestyle of the individuals with challenging behaviors and maximize the opportunities to socialize with their peers and function in the school and the community. Thus, PBS is a socially valid approach in that, from the perspective of relevant stakeholders, they are able to work with the children with challenging behaviors using techniques and strategies that are effective and at the same time part of a normal repertoire of interaction within the school and the community (Lane et al., 2009).

The fourth feature of PBS involves relevant stakeholders' participation. Traditional approaches to addressing problem behaviors, including ABA, ascribed to an "expert-driven" model of assessment and intervention strategies (Carr et al., 2002). In these approaches, professionals function as "experts" in the selection and implementation of intervention programs. Relevant stakeholders (persons with disabilities, parents, siblings, and teachers) play a secondary role as "aids" in implementing these strategies. In contrast to the "expert-driven models", PBS embraces a "consumer-driven model" to addressing challenging behaviors where relevant stakeholders function as "active participants" and collaborators in the design and implementation of intervention strategies. This notion of multiple stakeholder participation is a unique feature of PBS where both professionals and parents engage in a mutual and shared information exchange. Thus, parents' roles advanced from a passive roles in which they are trained by professionals to more active roles in which they are in a partnership with professionals in all stages of intervention programs including assessment, defining intervention outcomes, and determining the relevancy and practicality of the proposed intervention strategies (Carr et al., 2002; Dunlap et al., 2008).

The final, yet exceedingly important, feature of PBS is the focus on systems change and multi-component continuum of intervention. Capitalizing on the philosophy of fixing the contexts of the problem rather than the problem behavior itself, PBS seek to produce behavior change through systems change (Carr et al., 2002; Gutkin, 2012). In PBS, meaningful change occurs when the system is reorganized in a way that produces, supports, and sustains positive changes in behavior. Frey et al. (2008) note, that PBS cannot be viewed as just an "intervention" but "instead it is a set of problem-solving

strategies and processes that can be used to build upon existing strengths" (p. 5). Further, PBS "is not a manualized program, but a framework for the delivery of prevention and intervention services" (Anderson-Ketchmark & Alvarez, 2010).

A foundation of PBS is the establishment of systems that support and sustain implementation of evidence-based practices within the school environment (Sugai & Horner, 2006). By utilizing a system perspective, the school is considered as the unit of analysis and the combined actions of individuals within the school is what characterize the school as a whole. Sugai & Horner (2006) indicated that "to work effectively with the school as a whole, one must remember that organizations do not "behave." Instead, individuals within the organization engage in behavior". Unlike ABA which utilizes application of single interventions, PBS utilizes a multi-component approach to intervention that is crucial to change the multi- dimensional contexts of problem behaviors (Carr et al., 2002). Thus, young children with challenging behaviors require appropriate systems-level supports to promote positive behaviors and to reduce occurrence of problem behaviors.

A system approach in PBS emphasizes an integration of four critical components: 1) measurable outcomes that are valued by key stakeholders, 2) the use of data-based decision making, 3) evidence-based practices to achieve outcomes, and 4) multi-systems perspectives (Frey, Lingo, & Nelson, 2008; Gelbar, Jaffery, Stein, & Cymbala, 2015; Lane et al., 2008Sugai & Horner, 2002; Sugai & Horner, 2006; Simonsen & Sugai, 2013). Researchers have emphasized the integration of these four features is central to the implementation of PBS (Homer & Sugai, 2005). The first element that guides implementation of PBS is establishment of operationally defined academic, social, and

behavioral outcomes that are considered important by all relevant stakeholders including students, parents, and educators. These outcomes must be measurable, achievable, and defined by the school as a whole organization (Gelbar, Jaffery, Stein, & Cymbala, 2015; Frey, Lingo, & Nelson, 2008). The second element involves the use of evidence-based practices that have been validated experimentally (Sugai & Horner, 2002; Sugai & Horner, 2006). PBS utilizes interventions, strategies, and curricula that are rooted in behavioral theory, more specifically applied behavior analysis (Anderson & Kincaid, 2005; Carr et al., 2002; Kratochwill & Shemoft, 2004). Third, PBS depends on data-based decision making that is carried out through a team-based approach (Gelbar, Jaffery, Stein, & Cymbala, 2015; Sugai & Horner, 2006). In PBS, data are collected at different levels (including individual, class-wide, and school-wide level) and different contexts or settings (e.g. classroom, playground). Data also involves a collaborative efforts of educators, administrators, and other support staff. Within PBS, data serve four functions: a) to define, choose, and evaluate outcomes, b) to guide the selection of evidence-based practices, c) to evaluate the effectiveness of existing practices and need for modification, and d) to monitor both student and program progress (OSEP Center on PBIS, 2004). Lastly, PBS emphasizes the establishment of system supports to enable accurate implementation of research-validated practices (Frey, Lingo, & Nelson, 2008; Simonsen, Sugai, & Negron, 2008). The system supports include: personnel through establishing the PBS team, training, funding, and political support (OSEP Center on PBIS, 2004). The PBS team (often referred to as the leadership team or behavior support team) is composed of representatives of key stakeholders including administrators, special educators, general educators, school psychologists, parents, academic specialists in the area of Response-to-

Intervention (RTI), and behavior specialists (Gelbar, Jaffery, Stein, & Symbala, 2015; Scott, Anderson, & Spaulding, 2008; Sugai & Horner, 2006). The PBS team serves a main role of capacity building for the whole school in terms of training and staff development needs in implementation of effective practices, and evaluating progress toward measurable outcomes. Establishing a system of support also involve securing funding sources for the implementation of PBS as well as training activities (Frey, Lingo, & Nelson, 2008). Finally, political support in the form of district and state level initiatives and policies are a critical part for a sustained PBS implementation (OSEP Center on PBIS, 2004). Initiatives focusing on the improvement of social behavior of all students through use of effective practices must be integrated into the outcomes.

A multi-systems perspective is another significant aspect of PBS that is needed to support the program and the other three elements of measurable outcomes that are valued by key stakeholders, the use of data-based decision making, and evidence-based practices to achieve outcomes. This multi-system perspective includes four-systems: a) school-wide systems, b) classroom systems, c) non-classroom systems, and d) individual systems (Frey, Lingo, & Nelson, 2008). School-wide systems include clearly defined outcomes with behavioral expectations, strategies for teaching expected behaviors, procedures for prevention of problem behaviors, and strategies for keeping data for decision making. Classroom system includes practices at the level of the classroom including establishment of behavior management practice and direct instruction of behavior expectations. Further, behavior management practice and direct instruction are also carried into non-classroom systems (such as hallways, bathrooms, and cafeteria). Lastly, individual support systems

involve a team-based approach to provision of intensive interventions that include functional behavioral assessment and positive behavior intervention plans.

Another critical feature of PBS that has been adapted from public health models for establishing a system of behavioral support within school settings is the notion of prevention programs that are based on population groups into primary, secondary, and tertiary prevention of disease (Merrell, & Buchanan, 2006; Reinke, Splett, Robeson, & Offutt, 2009). Utilizing a public health model to the prevention of challenging behaviors in young children with disabilities, PBS provides support along a continuum of services (primary, secondary, tertiary) to address problem behavior. This three-tier model (triangle of behavior support) guide the service delivery for PBS interventions and strategies that focus on the behavior and the environmental context in which the behavior takes place (Anderson-Ketchmark & Alvarez, 2010; Frey, Lingo, & Nelson, 2008; Safran & Oswald, 2003; Simonsen, Sugai, & Negron, 2008). The three-tiered model for behavior support is analogous to the three-tiered reading model (often referred to as Response to Intervention) that has been developed to support the reading skills of children who are poor readers (Stewart, Benner, Martella, & Marchand-Martella, 2007). In this continuum of behavior support, the intensity of the intervention increases as the severity and frequency of problem behaviors increases (Frey, Lingo, & Nelson, 2008).

Tier 1 is the primary intervention tier, which target all students in the school. This level is implemented at the "school-wide" level and is designed to meet the needs of all students in the school. The focus is on "universal" interventions to teach social skills and arrange the learning environment to promote positive behavior for all students with the aim of preventing the occurrence of problem behaviors in both classroom and non-

classroom settings (Bradshaw, Waasdorp, & Leaf, 2012; Cohen, Kincaid, & Childs, 2007; Benner, Nelson, Sanders, & Ralston, 2012; Crone & Horner, 2003; Crone, Homer, & Hawken, 2004; Fairbanks, Simonsen, & Sugai, 2008; Simonsen & Sugai, 2013; Todd, Campbell, Meyer, & Horner, 2008). It is presumed that approximately 80%–90% of students will respond effectively to these proactive universal strategies (Frey, Lingo, & Nelson, 2008). Tier 2 is referred to as secondary interventions, which provide support for a targeted group of students who are at risk of developing a more serious problem behavior that continue to occur even after effective primary interventions (Debnam, Pas, & Bradshaw, 2012; Fairbanks et al., 2008; Hunter, Chenier, & Gresham, 2014; Lane, Capizzi, Fisher, & Ennis, 2012; Todd et al., 2008). It is estimated that 5% - 15% of students demonstrate problem behaviors that do not respond to universal interventions and will require secondary targeted interventions (Frey, Lingo, & Nelson, 2008; Hawken & Horner, 2003). Intervention strategies within this level are referred to as "Targeted" interventions and include specific services and supports that are provided for an identified specific group of students (Walker, Cheney, Stage, & Blum, 2005). Common secondary-level interventions include functional assessment of behavior and implementation of evidence-based instructional practices such as targeted social skills instruction, self-monitoring strategies, and peer mentoring (Fairbanks et al., 2008; Gureasko-Moore, DuPatil, & White, 2006; Hunter, Chenier, & Gresham, 2014; Stage, Cheney, Lynass, Mielenz, & Flower, 2012). The final level of support is Tier 3, which is referred to as the "tertiary" level (Fairbanks et al., 2008; Frey, Lingo, & Nelson, 2008; Loman & Horner, 2014; Simonsen, Sugai, & Negron, 2008). Often, there are students who exhibit severe problem behaviors that do not respond to primary and secondary intervention tiers and

require more intensive interventions. These students comprise approximately 5% of students who will require an "individualized" level of support (Frey, Lingo, & Nelson, 2008). The primary supports at Tier 3 level include Functional Behavior Assessments (FBA), the development of Positive Behavior Intervention Plan (PBIP), and Individualized Education Programs (Eber, Breen, Rose, Unizycki, & London, 2008; Kamps, Wendland, & Culpepper, 2006; Moore, Anderson, & Kumar, 2005).

Features of Functional Behavior Assessment (FBA)

Within PBS, Functional Behavior Assessment (FBA) is a tool that is applied to children with challenging behaviors across the three-tiered support systems. Although FBA mostly utilized at the individual tertiary level for children with more severe challenging behaviors, researchers have been advocating the use of FBA as a proactive approach to intervention across both the secondary targeted level as well as the school-wide primary level (Duda, Dunlap, Fox, Lentini, & Clarke, 2004; Fox; Dunlap, & Cushing, 2002; Hunter, Chenier, & Gresham, 2014; Lane, Capizzi, Fisher, & Ennis, 2012; Scott & Caron, 2005; Scott & Eber, 2003). A central component of PBS is the function-based support for students with challenging and chronic problem behavior that is translated into Functional Behavior Assessment (FBA) which inform the development of Behavior Intervention Plan (BIP).

Functional behavioral assessment (FBA) has been defined as the "process for determining the reason or reasons why a student engages in inappropriate behaviors by identifying predictable relations between the behavior and the environment in which it occurs" (Scott, Anderson, & Spaulding, 2008). It is a systematic method of generating

information on the events preceding and following behaviors to determine which antecedents and consequences are associated with the occurrence of the target behavior. In other words, FBA is a process that aims towards "understanding the behavior" through identification of environmental factors and events that predict the behavior (Beavers, Iwata, & Lerman, 2013; Dunlap & Kincaid, 2001; Killu, 2008). Although the use of FBA for children with challenging behaviors has been mandated by legislation (IDEA 2004), the rationale for the use of FBA is embedded in three key principles. The first principle pertains to the notion that behavior serves a function for the child. Second, behavior is affected by interaction between environmental factors (antecedent or consequent events that can be identified through the assessment process) and factors inherent to the child. Last, problem behavior can be decreased, and appropriate responses can be learned by means of altering the environment (Collins & Zirkel, 2017; Reid & Nelson, 2002).

The ultimate goal of FBA is to identify interventions that directly target the function of a child's behavior (Fox, Dunlap, & Cushing, 2002). This is accomplished by assessment of the function of the child's behavior in relation to the context in which it occurs so that effective interventions can be designed to meet the individualized needs of the child (Scott, Anderson, & Spaulding, 2008). Sugai and colleagues (1999) described the importance of FBA: "The FBA approach is the cornerstone of systems that address the educational programming of students who display the most significant and challenging problem behaviors. These students require behavior support plans that are specialized, individualized, and high intensity. Such plans must be based on information about the nature of the problem behavior and the environmental context in which the

problem behavior is observed. The FBA approach provides a systematic and informed means by which targeted interventions can be developed and monitored." (p. l2)

There are five key features of FBA: 1) Team-based process; 2) Operational definition/clear description of target behavior; 3) Identifying antecedents of behavior; 4) Collecting data about target behavior through direct observation; and 5) Hypothesis of the relationship between environmental factors and the target behavior which provide a function of the target behavior (Crone & Horner, 2003; Killu, 2008). It is of importance to note that FBA process is a team-based process. The team members must include school administrator, behavior specialist, educational psychologist, social worker, parents, and the student with disability (Scott, Anderson, & Spaulding, 2008; Killu, 2008). The importance of having a behavior specialist in the behavior support team was supported by studies that examined the technical adequacy of the composition of behavior support team (Benazzi, Horner, & Good, 2006; Benazzi, Nakayama, Sterling, Kidd, & Albin, 2003; Mitachi & Albin, 2001). In their study, Mitachi and Albin (2001) recommended that the behavior support team must include a member with formal training in behavioral theory and positive behavior support in order to use FBA data successfully in guiding the development of BIP. The results of this study were further validated in the Benazzi, Horner, & Good (2006) study of twelve school-based teams in eleven elementary schools in the Pacific Northwest. The study compared the technical adequacy of behavior support plans according to three types of teams: teams missing a behavior specialist member, teams with a behavior specialist with knowledge of the student, the setting, and behavioral theory, and teams in which the behavior specialist worked alone. The study utilized the Intensive Individualized Interventions Critical Features Checklist

to examine the technical adequacy of the behavior support plans. The behavior support plans were scored on a scale ranging from 0 to 17, representing the number of the 17 crucial elements that the plan included. These elements included: having an operational description of the problem behavior, the FBA summary statement, strategies used to inhibit the problem behavior, instructional strategies used for teaching the desired behavior, strategies used to decrease the reinforcement of problem behavior and increase reinforcement of desired behavior, and strategies to evaluate the fidelity of implementation. The study findings showed that technical adequacy of FBA and BIP were higher in the teams that included a behavior specialist as well as in teams in which the behavior specialist functioned alone.

A key outcome of FBA is the identification of environmental factors and events related to the incidence of problem behaviors. The importance of identifying antecedent and consequence behaviors lies in its link to the successful development and implementation of BIP (Kern, Choutka, Sokol, 2002). The literature provides many methods that could be utilized in identifying antecedent and consequences of target behaviors. One method for conducting FBA is through the use of direct observation which relies on observations of the students as they engage in the problem behavior. This is accomplished by identifying the contexts or settings in which the child participates. The best way to identify antecedents and consequences of problem behavior is to go through the child's schedule and establish when the problem behavior is most likely and least likely to occur (Scott, Anderson, & Spaulding, 2008). Further, there are a variety of direct observation measures that can be used including the Antecedent-Behavior-

Consequence (ABC) approach and the compliance probes (Olympia, Heathfield, Henson, & Clark, 2002).

The outcomes of positive behavior plans are improved when FBA include a description of the function of the student's problem behavior (Didden, Duker, & Korzilius, 1997; Ingram, Lewis-Palmer, & Sugai, 2005; Newcomer & Lewis, 2004). Simply stated, function of behavior refers to the reason or cause of behavior. Frey and Wilhite (2005) defined FBA as "a systematic process that seeks to answer the question, "Why is this behavior occurring?" (p. 158). Rather than labeling a problem behavior as inappropriate, educators need to view a student's problem behavior from a different perspective that focuses on understanding the behavior and the function it serves for the student. Further, Frey and Wilhite (2005) provided a framework to understanding the meaning and purpose of problem behaviors as a means to serve five basic human needs including survival, belonging, self-worth and sense of empowerment, need for independence and autonomy, and need for enjoyment.

Once antecedent behaviors are identified, and target behavior is operationally defined, the next step in the FBA process is the hypothesis statement and the hypothesis verification that provides the link between the environmental factors and the target behavior (Kern, Choutka, Sokol, 2002). Hypothesis testing of target behavior should be done prior to the implementation of the intervention plan. According to Olympia, Heathfield, Henson, and Clark (2002), hypothesis testing involves "direct manipulation of antecedent and consequence events" (p. 139) in the natural context of the school. The development of positive behavior support plans cannot be considered until the team

reaches a hypothesis statement of the target behavior (Scott, Anderson, & Spaulding, 2008).

Effective BIP development must be linked to the data collected through the FBA process. In other words, it is the FBA information that informs the development of BIP. The rationale behind this requirement lies in the logic that the teacher's ability to arrange the environment to support a more appropriate behavior depends largely on the function of the problem behavior from the student's perspective and relationship between the behavior and the environmental factors (Scott, Anderson, & Spaulding, 2008). BIP provide educators with a systematic way to developing and implementing individualized intervention to decrease problem behavior and increase appropriate social behavior (Buck, Polloway, Kirkpatrick, Patton, & McConnel-Fad, 2000; Cook et al., 2007; Crone & Horner, 2003).

Research Problem

In the United States, provision of appropriate education for children with challenging behaviors continues to be a concern for educators. This concern has been addressed by the IDEA amendment of 1997 with the requirement of Functional Behavioral Assessment and Positive Behavior Support interventions for managing student problem behaviors. IDEA legislation requires that school personnel (general educators, special educators, and school administrators) be knowledgeable in functional behavior assessment and positive behavior interventions (Gartin & Murdick, 2001). In order to fulfill this responsibility, IDEA regulations recognize the need for teacher training and held school districts accountable for the provision of in-service and pre-

service training for teachers and other school personnel in FBA process (Gable, Quinn, Rutherford, & Howell, 1998; Gartin & Murdick, 2001; Shelladay & Stichter; 1999; The Center for Effective Collaboration and Practice, 1998). IDEA state that "the [state] plan must include a description of how the state will ... enhance the ability of teachers and others to use strategies, such as behavioral interventions, to address the conduct of children with disabilities that impedes the learning of children with disabilities and others". (§ 300.382[f]) (Gartin & Murdick, 2001, p. 345). School districts must also ensure that members of the IEP (Individualized Education Plan) team are well trained in best practice of conducting FBA (Conroy, Clark, Fox, & Gable, 2000; Gartin & Murdick, 2001; Drasgow & Yell, 2001).

Although there is a paucity of research studies investigating school personnel professional development needs in FBA and positive behavior interventions, research literature indicates a gap exists between actual and recommended practices and that schools are struggling to meet the legal requirement and minimum standards of best practices in FBA and positive behavior interventions (Blood & Neel, 2007; Cook et al., 2007; Crone & Horner, 2003; Didden, Duker, & Korzilius, 1997; Frey & Wilhite, 2005; Gresham, Watson, & Skinner, 2000; Horner, Sugai, Todd, & Lewis-Palmer, 2000; Ingram, Lewis-Palmer, & Sugai, 2005; Kern, Choutka, Sokol, 2002; Killu, Weber, Derby, & Barretto, 2006; Newcomer & Lewis, 2004; Olympia, Heathfield, Henson, & Clark, 2002; Scott, Anderson, & Spaulding, 2003; Scott, Liaupsin, & Nelson, 2001; Van Acker, Boreson, Gable, & Potterton, 2005; Walker, 2017; Weber, Killu, Derby, & Barretto, 2005; Wood, Blair, Ferro, 2009). Findings of research studies demonstrate the need to provide school personnel with necessary training in conducting FBA. In their

national review of due process hearings involving FBAs from the passage of IDEA 1997 until 2000, Drasgow & Yell (2001) concluded that "the primary difficulty school districts face is complying with the procedural requirements for conducting an FBA" (p. 246). While school districts are offering a variety of training for school personnel, it is inadequate as it is not mandatory for all school personnel and the majority of training programs are short-term and not comprehensive to ensure accurate implementation of FBA (Conroy, Katsiyannis, Clark, Gable, & Fox, 2002).

Despite research support for the importance of FBA and positive behavior interventions in the provision of educational services for children with challenging behaviors, there is a growing concern among educators that current practices do not meet the recommended standards for FBA procedures and that school personnel are not well prepared to manage student problem behaviors in Qatar. Further, research in this area is limited to the point of being non-existing. In an explorative study of inclusion practices in the general education schools in Qatar, students with problem behaviors are not being included and that inclusion practices are limited to children with physical disabilities (Al Attiyah, Al Abed, Al Balsheh, Al Hadad, & Lazarus, 2004).

Research Purpose and Research Questions

FBAs have been identified as a recommended practice for use with young children with a wide range of behavior problems by the Division for Early Childhood (Sandall, McLean, & Smith, 2000). However, recent research literature in the United States continues to document that early educators (general and special education) are less prepared to design and implement individualized interventions for young children with

challenging behaviors (Hemmeter, Santos, & Ostrosky, 2008; Smith, 2006). In actuality, training in meeting the needs of young children with challenging behaviors was identified as the greatest need area among general and special education early childhood teachers (Hemmeter, 2006).

Meeting the needs of young children with challenging behaviors are global issues as documented in the excisting literature. Considering the existing cultural differences and the lack of research in this area in Qatar, it is of importance that research in this area be expanded by examining current practices in FBA in the state of Qatar. Thus, the primary purpose of this study was to provide a descriptive analysis of current FBA practices in Qatar and evaluate the discrepancy of current practice to recommended practices in FBA. The second purpose was to shed light on issues related to professional development needs of school personnel in FBA and behavior intervention strategies. Accordingly, the study sought to answer the following questions:

1) To what degree are FBAs and positive behavior interventions being implemented in special education programs in Qatar in terms of technical adequacy?

2) How do special educators perceive their current skill levels in designing and implementing FBAs and positive behavior interventions?

3) What are the areas in need of professional development from the perspectives of special education teachers and support staff?

4) How do special education teachers working in Qatar view FBA and behavior interventions as an area of professional development need?

CHAPTER 2: Literature Review

This study explored various aspects related to Positive Behavior Support and Functional Behavior Assessment from the perspectives of professionals who serve children with challenging behaviors. The aim of this review was to examine the existing empirical research literature on efficacy of PBS, factors that influence technical adequacy of FBA and BIP, and school personnel training needs in FBAs/BIPs Implementation. This review answered the following questions:

- How PBS effectiveness in reducing challenging behaviors is addressed in the research literature?
- How professional development and training needs in the area of FBA at the in-service level is addressed in the research literature?
- What are the challenges faced by school personnel when adopting PBS practices in the research literature?
- What are the factors that influence technical adequacy of FBAs and BIPs?
- What type of research design is utilized in the empirical research literature to investigate adequacy of FBA and training needs of school personnel in PBS and FBA?

The primary source for this review was electronic databases including of the University of Oklahoma Library System including interlibrary loan and LORA. Secondary resources used included the World Wide Web search engines such as goggle. Search terms used included the following terms: positive behavior support, functional behavior assessment, positive behavior support plans, professional development in FBA,

school personnel training in FBA and BIP, efficacy of PBS, challenges in implementation of PBS, and adequacy of FBA and BIP. The existing research on positive behavior support and functional behavior assessment has focused predominantly on efficacy of PBS, technical adequacy of FBA and BIP, and school personnel training in FBAs and BIPs Implementation.

Research Studies Examining Efficacy of PBS

Even though PBS research literature spans over the past 10-15 years, a vigilant review of the PBS literature reveals a limited amount of research studies on the efficacy of PBS (Debnam, Pas, & Bradshaw, 2012; Crone & Horner, 2003; Horner, Sugai, Todd, & Lewis-Palmer, 2005; Lynass, Tsai, Richman, & Cheney, 2012; Nelson, Martella & Marchand-Martella 2002; Ross & Horner, 2007; Sugai & Horner, 2002) . This limited data may be related to a number of reasons. One of the reasons being that over the past decade the initial research literature was devoted to the evolution of PBS as an applied science focusing on integration of the critical features of PBS, differentiating PBS from other approaches, and implementation of PBS (Carr et al., 2002; Dunlap & Carr, 2007; Dunlap et al., 2008; Lane et al., 2009; Muscott, Mann, Benjamin, & Gately, 2004; Sugai & Homer, 2006; Warren et al., 2006). Second, a plethora of PBS literature has focused on integrity of implementation of PBS including development of evaluation tools to measure treatment integrity and outcomes as well as challenges to implementation of PBS programs (Cohen, Kincaid, & Childs, 2007; Eber, Lewis-Palmer, & Pacchiano, 2001; Horner et al., 2004; Lewis & Newcomer, 2002). Despite the fact that there are few models of district-level implementation of PBS across all schools (elementary, middle, and high schools) and within the three different levels of intervention, more research is

needed to deliver the promise of PBS in achieving positive outcomes for young children with challenging behaviors. This fact has been reiterated by many researchers and scholars within the field. In their article on the similarities between Positive Behavior Support and Response to Intervention, Sandomierski, Kincaid, and Algozzine (2007) restated that "while RTI and PBS share common parentages, histories, and features, there is still much work to be done to ensure that a combined approach can deliver on the promise of improving both academic and behavior outcomes for all students". The last factor to the limited data on efficacy of PBS is the fact that many schools are still in the initial stages of implementing PBS (Johnston, Foxx, Jacobson, Green, & Mulick, 2006; Skiba & Sprague, 2008).

Despite the limited research that investigate the effectiveness of PBS, empirical studies have documented that PBS can change the trajectory of young children with challenging behaviors through prevention of unfavorable outcomes and improving academic performance (Bradshaw, Mitchell, & Leaf, 2010; Cheremshynski, Lucyshyn, & Olson, 2012; Cohen, Kincaid, & Childs, 2007; Curtis, Van Home, Robertson, & Karvonen, 2010; Fairbanks, Simonsen, & Sugai, 2008; Frey, Lingo, & Nelson, 2008; Horner et al., 2009; Netzel & Eber, 2003; Sadler & Sugai, 2009; Todd, Campbell, Meyer, & Horner, 2008; Warren et al, 2006; Wilson & Lipsey, 2007). Sadler and Sugai (2009) evaluated a district wide model for early identification and prevention of reading and behavior problems in a district in Oregon that serves 10 elementary schools. The study investigated the behavioral and academic outcomes of a 10-year district wide implementation of instructional and social behavior support that utilized an integration of both RTI and SWPBS models. The study utilized four research-based practices: a)

curriculum-based measurements for universal screening and progress monitoring, more specifically the Dynamic Indicators of Basic Early Literacy Skills (DIBELS); b) a multi-tiered literacy organizational structure based on RTI model; c) two research-based reading programs (Open Court and Success For All); and d) a multi-tiered continuum of SWPBS. During the 10-year period, the study documented a reduction in the rate of Office Discipline Referral (ODR), improved reading instruction through decrease of the percentages of students in the deficit range on the Phonemic Segmentation and Oral Reading Fluency measures of the DIBELS from 8% to 3% for kindergarten students and from 21% to 10% for first grade students. The study also reported improved practices related to early identification of students at risk of behavior and reading problems.

PBS has been implemented with favorable results at many levels, including individual schools (Curtis, Van Home, Robertson, & Karvonen, 2010; Lane & Menzies, 2003; Lane, Menzies, Barton-Arwood, Doukas, & Munton, 2005; Luiselli, Putnam, & Sunderland, 2002; Luiselli, Putnam, Handler, & Feinberg, 2005; Warren et al, 2006; Wilson & Lipsey, 2007), entire school districts (Horner, Freeman, Nelson, & Sugai, 2003; Lohrman-O'Rourke et al., 2000; Nersesian, Todd, Lehmann, & Watson, 2000; Sadler, 2000; Sadler & Sugai, 2009), and across entire state education systems. In Kansas a law mandates PBS as a service for children eligible under Kan-be-Healthy (a program that provides medical health screening for children that is funded by Medicaid (Freeman et al., 2005). It is estimated that approximately 6,000 schools across the United States are currently implementing SWPBS programs and the number is expected to increase over the years (Skiba & Sprague, 2008). More schools are expected to implement PBS as "schools are finding that such comprehensive, systemic programs can reduce school

disruption and improve school climate without reducing students' opportunity to learn" (Skiba & Sprague, 2008, p. 42).

The research literature revealed a considerable number of studies that investigated school-wide implementation of PBS and positive outcomes for young children with challenging behaviors (Curtis et al., 2010; Fairbanks, Simonsen, & Sugai, 2008; Frey, Lingo, & Nelson, 2008; Todd, Campbell, Meyer, & Horner, 2008). Curtis et al. (2010) reported the results of a 4-year implementation study of a SWPBS program in a K-5 elementary school in a rural county in western North Carolina. The school also serves children with developmental delay in a prekindergarten program, students with developmental disabilities in kindergarten through second grade program, and students with emotional and behavioral disorders. The study utilized four data collection measures including: Office Discipline Referrals (ODRs), extended timeouts, out-of-school suspensions (OSSs), and lost instructional days. The study results demonstrated a statistically significant decrease in all four outcomes measures (47.8% decrease in ODRs, 56.5% decrease in lost instructional days, 67% decrease in OSSs, and 1.7% decrease in extended timeouts).

One significance of this study is in the use of the variable "lost instructional days" that has not been included in other PBS research literature. Lost instructional days due to students' challenging behaviors is an important factor as research studies have documented that high attendance rates in schools is associated with higher achievement scores (Johnston, 2000; Konstantopoulous, 2006). Further, the results of this study, more specifically the decrease in ODRs and OSSs, are consistent with previous research

(Barrett, Bradshaw, & Lewis-Palmer, 2008; Luiselli, et al, 2005; Luiselli et al., 2002; Scott, 2001; Taylor-Greene & Kartub, 2000).

While there is a substantial amount of research studies that demonstrated the effectiveness of PBS in reducing problem behaviors and increasing appropriate behaviors across different school settings and with a wide range of severity of challenging behaviors (Dunlap et al., 2003; Franzen & Kamps, 2008; Galensky, Miltenberger, Stricker, & Garlinghouse, 2001; Joseph & Strain, 2003; McClean, Grey, & McCracken, 2007; McGoey, DuPaul, Eckert, Volpe, & Van Brakle, 2005; Skiba & Sprague, 2008; Todd et al., 2008), there are limited research studies that investigated the relationship between SWPBS and academic achievement (Barrett, Bradshaw, & Lewis-Palmer, 2008; Fleming, Harachi, Cortes, Abbott, & Catalano, 2004; Horner, Sugai, Eber, & Lewandowski, 2004; Houchens, Zhang, Davis, Niu, Chon, & Miller, 2017; Larsen, Steele & Sailor, 2006; Lohrmann-O'Rourke & Yurman, 2001; Luiselli, Putnam, & Sunderland, 2002; Luiselli et al., 2005; McIntosh, Horner, Chard, Boland, & Good III, 2006; Putnam, Handler, & O'Leary-Zonarich, 2003; Putnam, Handler, Rey, & O'Leary-Zonarich, 2002; Scott and Barrett, 2004). In a study of elementary school, McIntosh and colleagues (2006) demonstrated that poor literacy scores in kindergarten was a strong predictor of later problem behavior, more specifically increased office discipline referrals in fifth grade. The study utilized a longitudinal analysis design of grade groups for 425 students from kindergarten to fifth grade. Students' level of challenging behavior was measured using office discipline referrals (ODRs) and student-reading skills was measured using the Dynamic Indicators of Basic Early Literacy Skills (DIBELS).

The study also shed light on the importance of prevention and early intervention of problem behaviors through prevention of academic deficits and improving reading skills at the end of kindergarten. Even though the study results may not be generalized to all students in the population, its significance lies in the importance of combining both reading and positive behavior support programs to improve the trajectories of students at risk of challenging behaviors. The results of this study are consistent with previous research that affirmed young children who have higher scores in the middle of elementary school demonstrate less problem behaviors by seventh grade (Fleming et al., 2004).

It is well established in the research literature that there is a high correlation between the amount of time spent in instruction and student achievement. Nevertheless, a few research studies have investigated the relationship between PBS and time in instruction (Putnam, Handler, & O'Leary-Zonarich, 2003; Putnam, Handler, Rey, & O'Leary-Zonarich, 2002; Scott & Barrett, 2004). One study that looked at this relationship evaluated the implementation of a two-year SWPBS program in an elementary school in an urban region of Maryland (Scott & Barrett, 2004). The study utilized three measures: ODRs, disciplinary suspensions, and the System-Wide Evaluation Tool: School Wide (SET-SW) which is used to monitor the integrity of PBS implementation. The study results demonstrated a reduction in the annual rate of ODRs by 562 and in disciplinary suspensions by 55 over the two-year implementation of PBS. To calculate the gain in instructional time, the authors estimated that with each ODR a student loses 20 minutes of instructional time and with disciplinary suspension a student loses one day of instructional time. Thus, the study results showed a gain of 29.5 days per

year as a result of decreased ODRs and a gain of 50 days as a result of reduced disciplinary suspensions resulting in a total gain of 79.5 days of instruction time.

In addition to the favorable outcomes of reducing problem behaviors and increasing instructional time, research studies have documented PBS is associated with improved academic outcomes for young children with challenging behaviors (Horner, Sugai, Eber, & Lewandowski, 2004; Horner, Sugai, Todd, and Lewis-Palmer, 2005; Luiselli et al., 2005; Sugai, Lewis-Palmer, Todd & Horner, 2001). Research studies have demonstrated that SWPBS is associated with improved standardized test results. Luiselli and colleagues (2005) completed a three-year study in which SWPBS was implemented in an urban elementary school in the Midwest region in the United States. The student population was multi-ethnic with a predominance of African American (88%), 11% of the students received special education services, and 10% were English Language Learners. Several measures were used for data collection including ODRs, disciplinary suspensions, and a standardized tests for academic performance (the Metropolitan Achievement Test-Seventh Edition, MAT-7, which measure critical skills for reading comprehension and mathematics). The study results revealed a reduction of ODRs and disciplinary suspensions from baseline to intervention to the follow-up phases of the study. Also, the study showed an improvement in academic performance in reading and mathematics as measured by the percentile ranks on the reading comprehension and mathematics standardized tests from 18 to 25 percentage.

In a related study in Illinois, the academic performance of schools implementing SWPBS was compared to that of schools that did not implement PBS programs (Horner, Sugai, Eber, & Lewandowski, 2004). The study included 121 schools, of which 52

schools implemented SWPBS programs and 69 schools that did not implement PBS programs. The study results showed that 62% of the third-grade students in the schools in which SWPBS was implemented met the Illinois State Achievement Reading Test Standard compared to 47% of third grade students in the schools that did not implement PBS programs. Similar results were documented in district-wide study that involved nineteen elementary schools (Horner, Sugai, Todd, & Lewis-Palmer, 2005). Improved outcomes in meeting state wide reading standards were documented in schools that implemented PBS programs.

There is a growing body of research that support the use of PBS as a promising approach to reducing problem behaviors and improving both the behavioral and academic outcomes of young children with challenging behaviors. Nevertheless, these studies continue to be of a descriptive nature or pre-post comparison lacking the experimental control needed to establish association between PBS and positive academic outcomes. The need for further PBS efficacy research has been affirmed by Putnam, Horner, and Algozzine (2006) "Positive behavior support appears to be potentially an intervention that impacts academic achievement, but many replication studies must be completed to establish confirmatory evidence".

Research Studies Examining Technical Adequacy of FBA and BIP

During the past decade, there has been a vast amount of research literature examining the development and implementation of FBAs and BIPs (Crone & Horner, 2003; Didden, Duker, & Korzilius, 1997; Frey & Wilhite, 2005; Gresham, Watson, & Skinner, 200; Horner, Sugai, Todd, & Lewis-Palmer, 2000; Ingram, Lewis-Palmer, & Sugai, 2005; Kern, Choutka, Sokol, 2002; Newcomer & Lewis, 2004; Olympia,

Heathfield, Henson, & Clark, 2002; Scott, Anderson, & Spaulding, 2003; Scott, Liaupsin, & Nelson, 2001). Despite legislative support for FBAs and BIPs and the importance of positive behavior support plans in the management of students' problem behaviors, research literature demonstrates a gap exists between the recommended practices for effective FBAs and BIPs and what is actually being delivered (Blood & Neel, 2007; Cook et al., 2007; Killu, Weber, Derby, & Barretto, 2006; Van Acker, Boreson, Gable, & Potterton, 2005; Weber, Killu, Derby, & Barretto, 2005). Though the empirical research of the technical adequacy of FBAs and BIPs is limited, research studies demonstrate that the majority of positive behavior support plans are inadequate and fall short of the required components of effective FBA and BIP.

The first study examined the current practices related to FBAs and BIPs in schools (Van Acker, Boreson, Gable, & Potterton, 2005). The authors analyzed a total of 71 completed copies of FBAs and BIPs from 70 schools (elementary, middle, and high schools) in the state of Wisconsin. The FBAs/BIPs were analyzed using a rating instrument that was specifically designed for the study to evaluate the correspondence between the FBA information and BIP. The rating scale was based on a review of the research literature of "best practices" in conducting FBA and development and implementation of BIPs. It contained items that reflect the following components: 1) composition and training of the IEP team in charge of the FBA and BIP; 2) operational definition of the target behavior; 3) function of problem behavior; 4) methods of FBA data collection; 5) antecedents and consequences of behavior; 6) hypothesis of the link between the environmental factors and the target behavior; 7) use of positive behavior support strategies; and, 8) record of implementation monitoring of the BIP. Moreover, the

scale items were rated on a 5-point continuum scale from 1 = poor to 5 = excellent as well as a zero (0) for missing.

Results from the Van Acker et al. (2005) study demonstrate that the majority of the FBAs and BIPs were inadequate and lack critical elements of "valid" FBAs and BIPs. The most common inadequacy was in the specification of the target behavior, where only 6% of the analyzed FBAs provided an operational definition of the target behavior, 18% failed to specify the target behavior, and 52% provided an inadequate definition of the target behavior. This finding is astonishing considering that providing an operational definition and a clear description of target behavior is the first step in the FBA process (Duda, et al., 2004; Fox; Dunlap, & Cushing, 2002). The majority of the FBAs (61%) also failed to provide the methods used to test the hypothesized function of the behavior. While 82% of the analyzed FBAs identified antecedents, consequences, and environmental factors that influence the target behavior. Additionally, the majority (54%) of the analyzed FBAs/BIPs showed inadequate connection between the FBA information and the developed BIP, and only 34% included a plan for monitoring and evaluation of the effectiveness of the BIP. Perhaps the most astonishing finding of the study was the fact that only 35% of the BIPs included application of the information regarding the function of behavior to support a more appropriate replacement behavior. Lastly, less than half (40%) of the FBA/BIPs were developed within the context of the IEP team as mandated by the legislation.

In response to the lack of clarity of the FBA and BIP procedures in the 1997 authorization of IDEA, the Office of Special Education and Rehabilitative Services (OSERS) provided a Technical Assistance Guide for the State Education Agencies that

offered guidelines for the recommended procedures for FBA and BIP (U.S. Department of Education, 1999). Thus, the responsibility of establishing policies for FBA and BIP procedures were embarked on by the States. In the research literature, there were two studies that examined the FBA and BIP at a national level in terms of the resources that were developed by the states (Killu, Weber, Derby, & Barretto, 2006; Weber, Killu, Derby, & Barretto, 2005). The first study examined the resources provided by the states as they relate to the procedures of completing an FBA (Weber, Killu, Derby, & Barretto, 2005). In this study, resources from 48 State Education Agencies (SEAs) were examined for the recommended practices for conducting an effective FBA. The study examined the type of information contained in these resources on fourteen items including: review of student's records, operational definition and identification of target behavior, assessment data, interviews with students, interviews with other key members, team-based approach, developing hypothesis, use of direct observation methods, use of scatterplot, analysis of antecedents and consequences of behavior, Functional Analysis Observation form (FAO), identification of reinforcers, environmental context of the behavior, and hypothesis testing of the target behavior in the natural context of the school. The study showed that only 41 states provided information and resources for educators and schools on conducting an FBA. The most common area that was included in these resources was definition of target behavior and use of direct observation methods for FBA. The fewest components included in these resources were information regarding identification of reinforcers and hypothesis testing of the target behavior in the natural context of the school.

In the second study, Killu, Weber, Derby, and Barretto (2006) did a comparison study across 49 SEAs in terms of resources provided on BIP development and implementation. Documents from SEAs were analyzed on 25 areas for BIP effective practices that were based on the Technical Assistance Guide (Sugai et al., 1999). Of the 49 states surveyed, only 40 states provided resources for schools on BIP development and implementation. Of these 40 states, only 10 SEAs provided information on all of the 25 areas of standard practices for BIPs. Further, the results of the study showed that the least addressed areas of the BIPs resources were inclusion of measurable goals and objectives (29%) and identification of replacement behaviors (20%).

The findings of the Van Acker et al. (2005) study were validated by Blood and Neel (2007) study that examined the implementation of FBAs and BIPs for students with Emotional and Behavioral Disorders (EBD). The focus of the Blood and Neel study was on practices related to the implementation of FBA and the utilization of the FBA information in the development of BIPs for forty-three students with EBD in a self-contained classroom, from elementary through high school, in a school district in eastern Washington. The primary data collection was IEP file reviews augmented by teacher interviews to assess the degree of FBA implementation. The study results showed that the most common source of information for FBA was teacher interview (47%). Even though the use of behavior rating scales and observation was present, they were used infrequently. The study also found that the majority of BIPs developed were inadequate in terms of missing critical components such as hypothesis statements and alternative behaviors. The most surprising finding was the lack of individualization of the BIPs. The majority of the BIPs (78.6%) were composed of a list of positive and negative reinforcers

of behavior, what the authors referred to as “hierarchal stock list” (p. 71). The rest of the BIPs (21.4%) had some level of individualization such as likes and dislikes of the reinforcers. These findings are alarming and unethical in terms of educational practice as none of the BIPs were individualized for the specific student and were not informed by the information in the FBA.

A more recent study that reiterated the finding of the Van Acker and colleagues study (2005) examined the technical adequacy of BIPs (Cook et al., 2007). Unlike the Van Acker et al. study, this study focused only on BIPs and included a much larger sample (320 BIPs compared to 71 BIPs). The BIPs analyzed in this study were obtained from two independent samples in California. The first sample included 244 BIPs developed by experienced professionals who completed six-hour training in BIP development. The second sample comprised BIPs that were randomly selected from 110 plans developed by professionals who did not receive training in BIP development. The authors utilized the Behavior Support Plan-Quality Evaluation (BSP-QE) to rate the quality of the analyzed BIPs. The BSP-QE is a lickert-type rating instrument (0 = unmet, 1 = partially met criteria, and 2 = adequately met criteria), resulting in a total score of 24. Results of the study demonstrated a significant mean difference between the two groups with the trained experienced group being more likely to develop adequate BIPs than the typical group. Moreover, 75.5% of the BIPs developed by the trained experienced group were adequate compared to 24.5% of the BIPs developed by the typical group. The implications of these findings reflect that the majority of educators are not sufficiently prepared to develop effective BIPs.

Research Studies on School Personnel Training in FBAs/BIPs Implementation

Considering the findings of empirical research on the technical adequacy for FBA and BIP, it is unlikely that positive behavior support plans will result in positive outcomes for students with challenging behaviors given the current quality of the plans. The implications of the empirical research on the adequacy of positive behavior support plans reflect the disappointing fact that the majority of school personnel are not well prepared to meet the behavioral needs of students with challenging behaviors (Blood & Neel, 2007; Cook et al., 2007; Killu, Weber, Derby, & Barretto, 2006; Van Acker, Boreson, Gable, & Potterton, 2005; Weber, Killu, Derby, & Barretto, 2005). Thus, given the above issues, it is apparent that school personnel training is a critical element in the provision of positive behavior support plans for students with problem behaviors.

There are limited research studies as well as a paucity of research that examine the professional development needs of educators and school personnel in the area of FBA and BIP. The findings of Gunter and Denny (1996) showed that special educators indicated a need for additional training in the area of behavior management. These findings were validated in the 1998 survey by the National Association of State Directors of Special Education (NASDSE, 1998). In this survey, training in FBA was ranked third among the top areas for staff development. In another study that involved a statewide survey, special education administrators and school psychologists expressed their concern regarding the lack of training for educators in FBAs (Nelson, Roberts, Rutherford, Mathur, and Aaroe, 1999). Further, Pindiprolu, Peterson, and Berglof (2007) conducted a regional survey of school personnel to examine their professional development needs. The study involved 157 special and general educators, administrators, and support

personnel. The results showed that professional development in FBA and interventions for behavioral problems were among the top three areas of need for all school personnel.

Although the research literature provides evidence for the effectiveness of the use of positive behavioral interventions for students with challenging behaviors, the expected outcomes of these interventions rest with the appropriate preparation and continued professional development of educators and school personnel in conducting FBA and developing and implementing effective BIPs. Unfortunately, research literature on technical adequacy of FBA and BIPs continues to point toward the inadequacy of the IEP team to master those specific tasks and the continued need for professional development in FBA and positive behavior support plans. Therefore, stronger emphasis and commitment should be placed on both preservice and in-service models of personnel training for those serving students with behavior problems.

The research literature on teacher education have documented that early childhood teachers do not feel well prepared to meet the needs of young children with significant challenging behaviors (Hemmeter, Corso, & Cheatham, 2006; Hemmeter, Santos, & Ostrosky, 2008; Tillery, Varjas, Meyers, & Collins, 2010). In their survey of 500 in-service early childhood educators, Hemmeter and colleagues (2006) found that addressing challenging behaviors of young children was the highest rated area of training need. In a related study, Hemmeter and colleagues (2008) investigated the extent to which pre-service early childhood personnel preparation programs prepared graduates to address the needs of young children with challenging behaviors. The study utilized a survey design that was send to 225 programs (2- and 4-year institutions of higher education) across nine states that prepared teachers to work with young children ages 3

through 6 years. The survey results showed that the majority of graduating teachers fell short of the skills needed to address the social-emotional developmental needs of young children with challenging behaviors. The study also revealed that the major barrier to preparing graduating teachers in this area is the lack of appropriate experiences with children with challenging behaviors in practicum settings. A more recent study that investigated early childhood educators' perceptions of challenging behaviors and knowledge of PBS revealed consistent findings with previous studies (Tillery et al., 2010). The study utilized a qualitative method of semi-structures interviews with twenty kindergarten and elementary teachers. The study findings revealed that early childhood educators were unfamiliar with PBS and lack the knowledge and understanding of interventions used within PBS.

Implementation of PBS, particularly tier 3 individualized interventions, requires special education teachers to have a more specialized expertise and knowledge to support the social-emotional development of young children with severe challenging behaviors. According to Brownell, Sindelar, Kiely, and Danielson (2010) "special education teachers must master an increasingly complex knowledge base and sophisticated repertoire of instructional practices". The authors further reiterated that "preservice preparation is inadequate for this purpose" (p. 357). This inadequacy in preparing pre-service special educators in specialized instructional strategies to meet the needs of young children with challenging behaviors is affirmed by Kauffman (2010) "we who identify ourselves as special educators of students with emotional and behavioral disorders also have to look at our own shortcomings in instruction, shameful as they may be" (p. 180).

Kaufman also reaffirmed that "our focus needs to be not only on instruction, in both behavior and academics, but also on special instruction in both" (p. 182).

Research Methods in PBS

One of the critical features that distinguish PBS from other approaches to addressing challenging behaviors is the involvement of key stakeholders (students, families, teachers, support school personnel, and administrators) in the design, implementation, and monitoring of PBS (Cooper, Heron, & Heward, 2007). Embracing multiple perspectives in PBS has led to the utilization of research methodologies that goes beyond that of ABA methodologies of single subject design and quasi experimental designs (Dunlap et al., 2008). PBS research utilizes a wide range of methodologies that are often associated with the behavioral and social sciences fields such as large group studies commonly used as part of the psychosocial research approaches. PBS uses large group research methods to evaluate integrity of implementation of large-scale programs such as school-wide and district-wide programs (Curtis et al., 2010; Freeman et al., 2005). In exploring issues related to perceptions of key stakeholders regarding implementation of PBS interventions, PBS utilizes descriptive and qualitative research methods (Fox, Vaughn, Wyatte, & Dunlap, 2002; Horner et al., 2004; Tillery, Varjas, Meyers, & Collins, 2010).

Another critical feature of PBS is the focus on systems change that support and sustain implementation of evidence-based practices within the school environment (Anderson-Ketchmark & Alvarez, 2010; Frey et al., 2008; Sugai & Horner, 2006). This focus on systems change entails that PBS research document not only individual

outcomes but also the outcomes of the whole system. This has led to wide-ranging research in which there is a utilization of larger units of analysis including district-wide, regional, and state-wide PBS programs (Horner et al., 2003; Lane & Menzies, 2003; Lane et al., 2005; Luiselli et al., 2005; Sadler & Sugai, 2009; Warren et al, 2006; Wilson & Lipsey, 2007 Freeman et al., 2005). In addition, research on PBS have focused on variables related to systems change such as organizational management, leadership team organization, and teachers' training that are critical to successful implementation of PBS (Carr, 2007; Knoster, Villa, & Thousand, 2000; McLaughlin & Carr, 2005).

CHAPTER 3: Methodology

Research Design

The study utilized a descriptive analysis design to examine 1) the degree to which FBAs and positive behavior interventions are being implemented in Qatar, 2) school personnel's knowledge and skill level in positive behavior support, and 3) special educators and support staff professional development needs. The rationale for using a descriptive analysis design in this study lied in number of reasons. First, empirical research that examined school personnel knowledge and skills in FBA and positive behavior intervention utilized mainly quantitative inquiry (Blum & Cheney, 2009; Chitiyo & Wheeler, 2008; Pindiprolu, Peterson, & Berglof, 2007). Quantitative research, predominantly survey design, had been the primary means to solicit data from special education teachers and support staff regarding implementation of FBAs and PBS. Second, utilizing self-administered survey design for this study provide for a broad understanding of the current practices and professional development needs in FBA and positive behavior interventions in Qatar. This design provide breadth to data collection as the study involved perspectives of multiple key stakeholders of the PBS team including special education teachers and support staff (school psychologists and paraeducators). Finally, the research questions required understanding of the FBA practices in terms of broad trends at the school level (Creswell, 2003).

The research design adopted in this study utilized both self-administered surveys and critical analysis of the technical adequacy of FBA documents. Self-administered surveys were used to obtain data on FBA and positive behavior intervention practices used by special education teachers and support staff. In addition to gaining information

about special educators' skill level and professional development needs in FBA procedures implementation. The critical analysis of the technical adequacy of FBA documents, on the other hand, was utilized to obtain more in-depth information of the accuracy on what is actually being delivered to children with challenging behaviors. Compared to the self-administered survey, the FBA document analysis provides qualitative data that add in-depth dimension to data collection. Thus, utilizing the self-administered surveys in addition to the FBA document analysis provide a comprehensive understanding of the FBA practices in terms of broad trends at the school level and detailed perspectives at the individual level (Creswell, 2003).

Participants and Sampling

The overarching goal of the study was to collect information about FBA and positive behavior interventions practices from the perspectives of special education teachers and support staff working in Qatar. To provide a comprehensive picture of FBA and PBS practices, perceived skill level and knowledge, and professional development needs of special educators and support staff, participants in this study included key stakeholders working in the school: special education teachers, psychologists, para-educators, and related services professionals. Using the sampling scheme identified by Teddlie and Yu (2007), a non-probability sampling of a convenience sample was utilized for the study. Participants were recruited from Shafallah Center for Children with Special Needs which is the major center providing special education services for children with disabilities from three to twenty-one years old.

Participants for the study were 168 special education teachers, school psychologists, paraeducators, and support professionals (including related services therapists) working directly with children with disabilities at the center. The sample size for this study was appropriate as the study utilizes a small-scale survey involving non-probability sampling of convenience sample. Research literature on professional development needs and knowledge and skills in FBA and positive behavior interventions utilized a sample size in the range of 21-479 participants (Blum & Cheney, 2009; Chitiyo & Wheeler, 2009; Pindiprolu, Peterson, and Berglof, 2007).

Of the total 168 participants, 86 (51%) were special education teachers, 65 (39%) were paraeducators (teacher's aids), 13 (8%) were psychologists, and 4 (2%) were support professionals. The support professionals included one related service therapist (Occupational Therapist), two Art teachers, and one Physical Education teacher. There were 63 (37%) male and 105 (63%) female participants. Overall, fourty-eight percent (n = 80; 48%) of the participants were Qatari while the remaining eighty-eight percent (n = 88; 52%) were Non-Qatari. The majority of the Non-Qatari participants were from Egypt (n = 34; 20%), followed by Jordan (n = 15; 9%), Tunisia (n = 6; 4%), Sudan (n = 5; 3%), Oman (n = 2; 1%), United States of America (n = 1; 0.5%), United Arab Emirates (n = 1; 0.5%), Kingdom of Saudi Arabia (n = 1; 0.5%), and Somalia (n = 1; 0.5%). While twenty-two (13%) of the Non-Qatari did not specify their nationality. Table 1 provides a description of the study sample according to current employment, gender and nationality.

Table 1

Graphical Presentation of the Three Phased FBA/BIP Training

Variables (Participants, Gender, Nationality)	n	Percent (%)	Cumulative (%)
Special Educators	86	51	51
Paraeducators	65	39	90
Psychologists	13	8	98
Support Professional	4	2	100
Male	63	37	37
Female	105	63	100
Qatari	80	48	48
Non-Qatari	88	52	100

For the FBA/BIPs analysis, a random sampling strategy was used to select participants in order to obtain maximum variance within the sample (Creswell, 2007). A total of ten (10) students with problem behaviors who had individual FBA/BIPs were selected. All of the students were of Qatari nationality with eight (80%) were males and two (20%) were females. Of the total ten students, one (10%) student was enrolled in the Early Childhood Preschool Program; three (30%) students were from the School-age Program for Mild/Moderate Disability; one (10%) student was from the School-age Program for Severe/Profound Disability; three (30%) students were from the School-age Program for Autism Spectrum Disorders; and two (20%) students were from the Vocational Rehabilitation Program. Table 2 provides a description of the FBA/BIPs analysis sample according to gender and educational program.

Table 2

FBA/BIPs Analysis Sample according to Gender and Educational Program (N = 10)

Variables (Gender and Education Program)	n	Percent (%)	Cumulative (%)
Male	8	80	80
Female	2	20	100
Early childhood Preschool	1	10	10
School-age for Mild/Mod	3	30	40
School-age for Severe/Profound	1	10	50
School-age for ASD	3	30	80
Vocational Rehabilitation	2	20	100

Setting

State of Qatar

The study was conducted in the State of Qatar, a small country located on the Arabian Peninsula in the Persian Gulf. Qatar has a total area of approximately 11,437 square kilometers, which is about the size of Connecticut and Rhode Island combined (US Department of State, 2012). Despite its small geographic size, Qatar is one of the most highly regarded Gulf States partly because of its enormous natural gas reserve being the third largest reserve in the world. In fact, Qatar is one of the world's wealthiest countries with the second highest per capita income in the world derived from natural gas and oil revenues (Central Intelligence Agency, 2009). These immense revenues have been coupled with an extensive and dramatic change and development that affected all

areas of life including social change and modernization of the country (Brewer et al., 2007).

According to the Qatar Statistics Authority (2012), Qatar has an estimated total Population of 1.85 million (1,845,475 persons). Demographic of the population in Qatar reflects three salient trends: rapid population growth, population growth affected by migrant workers, and a critical gender imbalance. First, Qatar's population has grown very rapidly during the past decade. In a relatively short period of time and compared to the 2004 Census (750,000 persons), the population has more than doubled in accordance with the 2010 Census (Qatar Statistics Authority, 2012). Second, this rapid population growth reflects the vast economic growth that Qatar has experienced during the past decade and the couples increase in labor workers to support the massive building and construction industry. As a result, Qatari citizens comprise a minority of approximately less than one fifth (14%) of the total population, while the majority of the population (86%) is made up of expatriates employed in different parts of the Qatari economy. Much of Qatar's population is made up of unskilled migrant labors that have been attracted by the rapidly growing Qatari economy, more specifically in the petrochemical and construction industries (Berrebi, Martorell, & Tanner, 2009). Lastly, of the total population approximately 74% are males and 26% are females reflecting a critical gender imbalance (Qatar Statistics Authority, 2012). As the majority of the expatriates are male, it further explains the significantly skewed sex ratio in the composition of the population in Qatar (three males per one female).

Qatar's expatriate residents come predominantly from South Asia (India, Sri Lanka, Bangladesh, Nepal and Pakistan), south-east Asia (Philippine and Indonesia),

non-oil-rich Arab countries, and Europe (Qatar Statistics Authority, 2012). Because expatriates form the majority of the population in Qatar, it has given rise to a distinct social diversity in Qatar (Nagy, 2006). Added to the already existing social diversity of Qatari citizens who come from Arab, Persian or African descent as well as those of Bedouin traditions, a mosaic of cultural traditions, religion, and customs is evident in the Qatari society.

Qatar is a conservative society rooted in tribal values and customs with very traditional Islamic views. The Qatari society has been undergoing radical changes since the end of the 1990s. Along these changes, the Qatari family is going through a rapid transition that affects its functions, roles, and structure. Qatari families are trying to adapt to the rapidly sweeping modernization and liberalization movement across the country. In general, family structure in Qatar can best be described as a traditional extended family. However, recent population census has documented a definite transition towards a nuclear family structure that carries many features of both the Western model and the traditional extended family model (Qatar Statistics Authority, 2012). The result is a nuclear family that is characterized by extended relations as the families retain their traditional kinship ties. Though the Qatari household size has increased to an average of eight persons, this number reflects the additional number of maids, servants, and drivers employed by the family (Qatar Statistics Authority, 2012).

There is no doubt that the vast modernization process that swept the traditional Qatari society has played a significant role in transformation of the family structure from an extended family to a more nuclear family model. Along with modernization, rising standards of living and contemporary ways of communication gave rise to new lifestyles

that significantly influenced the nature and type of life at the family level. With the vast economic wealth, social significance within the Qatari culture is emphasized by symbols of material and wealth such as owning several cars, employing many domestic maids and servants, extravagant housing, and luxury clothing. The more of these symbols the family have the higher its social status in the Qatari society (Berrebi, Martorell, & Tanner, 2009; Nagy, 2006).

One of the influences of change in the structure and value system of the Qatari family is the dependence of families on foreign housemaids. It is a reality that nearly all upper and middle-class families in Qatar have a housemaid. In fact, a single household may have more than just one maid. According to the Qatar Statistics Authority (2012) Qatari family households have an average of 2.3 domestic maids/servants. Nevertheless, a recent study conducted by the Supreme Council of Family Affairs (2006) warned against the negative consequences of this dependency on maids on the family socialization in general and on children's emotional and social development in particular. Though maids are recruited mainly for household chore (cleaning, laundry, ironing, cooking and dish washing), they often end up taking care of the children in addition to the house chores. A very small percentage of maids are hired as nannies to take care of children. Taking into account that maids are not trained to care for children, many recent studies have documented the negative implications of reliance on housemaids to care for children in the Arabic countries. These studies have concluded that children often demonstrate attachment disorders, separation anxiety, and personality disorders (Roumani, 2005). Studies have found that children spend most of their time with the family housemaid than they do with their parents. As a result, the maid became the

primary caregiver for the child, which in turn affect the harmonious maternal attachment and increase the probability of problem behaviors (Roumani, 2005; Supreme Council of Family Affairs, 2006). Because of the frequent change of maids, many children have demonstrated separation anxiety disorders. Maids are recruited for two-year contract and once the contract is over another maid take over whom maybe from a different country and speak a different language. The majority of maids come from non-Arabic speaking countries such as the Philippines, Indonesia, Sri Lanka, or Ethiopia. Though they do not speak Arabic, with time most maids pick up the Arabic language from the family they live with. Their Arabic is characterized by poor pronunciation, limited vocabulary, and incorrect sentence structure. Recent studies have demonstrated that negative effect of the maids' language on young children language development and their ability to learn and acquire Arabic language (Roumani, 2005; Supreme Council of Family Affairs, 2006).

During the past decade, Qatar has been going throug a major transformation that affected all facets of its citizens' lives. The country invested in a major education reform to revamp its outdated school system. Two significant initiatives of the educational reform include the establishment of "Independent Schools" and the Education City (Brewer et al., 2007; Gengler, 2012; Rostron, 2009). Following a consultation with RAND Corporation in 2001, a new educational system was established, and RAND Corporation was entrusted with its implementation, monitoring, and evaluation. The new system is based on a Charter School Model that support the establishment of a set of government-funded schools referred to as "Independent Schools" reflecting the autonomy of school operation. Independent schools gave parents a choice allowing them to choose the school that best meets the needs of their child. It also established a standards-based

educational system where national standard set for the three basic elements of the education system: curriculum, assessment, and professional development for teachers (Brewer et al., 2007).

In addition to the radical kindergarten through grade 12 educational reform, the most important higher education reform involves the establishment of the Education City, under the Qatar Foundation for Education, Science and Community Development (Reilly, 2008; Rostron, 2009). The Education City has been recently named Hamad Bin Khalifa University (HBKU) in honor of His Highness Sheikh Hamad bin Khalifa Al-Thani, Emir of the State of Qatar (Gengler, 2012). HBKU strives to be a worldwide-recognized centre of excellence in higher education and scientific research. It is a 14-square-kilometer campus with branches of top American and European universities that offer a range of undergraduate as well as graduate degrees in the fields of engineering, computer and information systems, business, medicine, journalism, and international relations and diplomacy. HBKU hosts six American universities including: Virginia Commonwealth University's School of Design, Carnegie Mellon, Weill Cornell Medical College, Texas A&M, Georgetown University School of Foreign Service, and Northwestern University. In addition, HBKU hosts HEC Paris as the first European partner joined in June 2010 offering HEC Executive MBA (specialized master degree), and University College London (UCL), the first British university to open a campus in Qatar, offering postgraduate master degree programs in the areas of Archaeology of the Arab and Islamic World, Museum and Gallery Practice, and Conservation Studies.

Besides providing the best educational opportunities for young Qataris, these western universities served as a catalyst that supports social change and modernization of

the Qatari traditional and conservative society. Besides providing young Qataris with the necessary skills and qualifications to further increase their participation in the Qatari labor market, western universities played a significant role in supporting the status and changing role of women in the society (Bahry & Marr, 2005; Gonzalez, Karoly, Constant, Salem, & Goldman, 2008). Qatar has been exemplary among the Gulf countries in having female role models in high level government positions such as Dr. Shaikha Abd Allah al-Misnad who became the first female President of Qatar University in 2003; Sheikha Hessa Khalifa Al Thani who was appointed as the UN Special Rapporteur on disability in June 2003; and Shaikha Ahmad al-Mahmud, the first female Minister of Education.

Education reform has been extended to the field of special education with the passage of the new law No. 2/2004 on the rights of persons with disabilities in Qatar, which grant rights of persons with disabilities and provide legal protection against discrimination (US Department of State, 2010). Qatar is committed to inclusive education to support the participation of students with disabilities in mainstream schools. This commitment has been evident in the provision of set initiatives to meet the educational needs of all students. In June 2009, the Education Institute of the Supreme Education Council has issued a set of policies and guidance documents for independent schools to assist them in meeting the educational needs of all students. The policies utilized the term students with Additional Educational Support Needs (AESN) to include "students with Learning Problems (SWLP), students with Specific Learning Difficulties (SWSLD) and students with Disabilities (SWD). It also includes students with behavior problems (SWBP)" (Supreme Education Council, 2010, p. 7). The initiative utilizes Response to

Intervention (RTI) as the main model of educational support and the Three-tiered Model of Support for behavior support. Though the country is keen towards effective inclusive education in the Qatari schools, one of the greatest achievements in the provision of special education services for children with intellectual disabilities was the establishment of Shafallah Center for Children with Special Needs.

Shafallah Center for Children with Special Needs

Shafallah Center for Children with Special Needs is a non-profit, private center for the provision of special education and related services for children with all types of disabilities with the exception of visual and hearing impairment. The center is the first facility of its kind in Qatar that was established in 1999 at the behest of the First lady H.H. Sheikha Mozah Bint Nasser Al-Missned to provide comprehensive services to children with disabilities and their families. The center has been striving to be a center of excellence in the Middle East region for the provision of comprehensive special education, therapeutic and health care support services for children with disabilities from birth to adulthood (Shafallah Center, 2005). The center offers state-of-the-art technologies and cutting-edge therapies.

Shafallah Center provides a wide range of diagnostic, educational, and rehabilitation services. Educational services provided through three programs: Early Childhood/Preschool Program, School-Age Program, and Vocational Rehabilitation Program (Shafallah Center, 2005). The Early Childhood Program designed as a center-based preschool program for children 3-5 years old. The program provided special education and therapy services according to the child's individual needs, social play and

activities of daily living. Upon completion of this program and reaching the age of six years old, children are transitioned to one of the three School-Age Programs. The school-age program utilized adapted regular school curricula along with a functional curriculum of social skills and activities of daily living skills. The center offered three school-age programs depending on the type and severity of the child's disability. School Unit One designed for children between the ages of 6-14 years, with mild to moderate level of intellectual disability. The program focused on pre-academic, academic, and pre-vocational skills. School Unit Two designed for children with severe to profound intellectual disability and/or multiple disabilities, whose ages between 6-21 years old. School Unit Two program focused on activities of daily living skills, self-care skills, social skills, basic communication skills, and assistive technology. The third school-age program is designed solely for children diagnosed with ASD, whose ages range between 6-21 years. The program utilized a structured teaching model based on the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) curriculum. In addition, the program utilized other intervention models such as Discrete Trial Training (DTT), Applied Behavior Analysis (ABA), and visual communication systems depending on the child's needs. Lastly, the center offered a Vocational Rehabilitation for children with intellectual disabilities between the ages of 14-21 years. The program focuses on providing young adults with opportunities and exposure to various job experiences. The aim is to match a suitable job to every student by evaluating the students' interests and abilities and providing opportunities to practice the skills necessary for the job.

In addition to special education services, Shafallah Center provided an array of clinical and psychological services including: Child and adolescents' psychiatry services, therapy services, family support services, and psychological services (Shafallah Center, 2005). A medical doctor (Psychiatrist) served as the clinical director for all medical and paramedical services. The Child and Adolescent Psychiatry Unit opened in 2003 to address the emotional and behavioral difficulties of children. Intervention is provided as part of a multidisciplinary team approach which may involve psychotherapy, psychopharmacological medication, and/or consultation with other other professionals working with the child. Therapy services (occupational therapy, physical therapy, and speech and language pathology) offered to assist students with disability to benefit from special education and to promote functioning in all areas of students' daily lives. Therapy services are provided either on an individual one-on-one basis or group therapy intervention.

Shafallah center provides a wide array of psychological services through its Psychological and Behavioral Analysis Services Department. These services include the following programs: 1) Comprehensive clinical assessment including cognitive and psycho-educational assessment; 2) Autism clinical assessment comprising early diagnosis; 3) Applied Behavior Analysis through functional behavior assessment, functional analysis and behavioral treatment; 4) Psychological counseling services for children and their families utilizing Cognitive Behavioral Therapy (CPT); and 5) Creative therapy including Music and Art Therapy. Moreover, psychologists direct and coordinate clinical operations to develop behavior support programs. The principles of Behavior Analysis are applied by identifying and defining target behaviors, conducting functional

assessments in order to identify the maintaining factors for the target behaviors, collecting data, developing behavior intervention programs, and training teachers and parents on implementing these programs. Psychologists also utilize a newly designed Behavioral Functional Analysis Analog Lab to assess functions of students' behaviors to optimize success in behavior change. With regard to the autism clinical assessment and diagnosis, psychologists provide comprehensive assessment utilizing gold standard autism clinical diagnostic tools including: The Childhood Autism Rating Scale (CARS), the Modified Checklist for Autism in Toddlers (M-CHAT™), (C.A.R.S. and the M-CHAT), the Autism Diagnostic Interview-Revised (ADI-R), and the Autism Diagnostic Observation Schedule (ADOS).

At the time of data collection, Shafallah Center had manpower of 547 employees that include professional as well as support and administrative personnel. Of the total employees 20 were Medical and Nursing Professionals and 54 were Allied Health Professionals (13 Occupational Therapists, 22 Physical Therapists, and 19 Speech and Language Pathologists). Special Education Teachers constitute 179 employees while the Paraprofessionals (Teachers' Aids) made up a total of 85 persons. Lastly, support staff constitute 138 employees of the total manpower (12 Information and Media Personnel, 37 Drivers, and 89 Clerical Personnel), while administrative were 71 employees. Of the total 547 employees, 186 (34%) were Qataris and 361 (66%) were Non-Qataris. (Al-Qassimi, 2011).

Over the past two years, Shafallah Center has been undergoing a major change in the management of the center in an effort to re-organize the different programs and to further improve the quality of services. In April of 2012 Shafallah Center became a part

of the Shafallah Foundation which include under its umbrella the following centers: 1) Shafallah Center for Children with Special Needs, 2) Al-Noor Institute for Individuals with Visual Impairment, 3) Shafallah Medical Genetics Center, 4) Sports Center for People with Disabilities, and 5) The Sports Stadium for Special Olympics. In addition, Sheikha Hessa Bint Khalifa Bin Ahmed Al-Thani, former UN Special Rapporteur on disability, became the Vice Chair for the Shafallah Foundation Board of Directors. In addition, In September 2012 there was a change to the position of the managing director of Shafallah Center. The new managing director, Heyam Al-Suwaidi, hold a Master Degree in Special Education (Mild and Moderate Disabilities k-12) from Johns Hopkins University. These changes came to provide highly qualified leadership for Shafallah Center. Due to the multiple departments within Shafallah Center, management took a top-down style with a centralized leadership. It is still unclear in the meantime with the new changes in management whether a team-based management styles will be adopted. The organizational structure for the Shafallah Center (Figure 1) clearly depict the three levels of management within the top-down style: 1) Top management represented by the Managing Director along with the Board of Directors and a consultant Advisor to the Board of Directors; 2) Middle management represented by the directors of the programs (Director of special education programs, Director of clinical and rehabilitation services, Director of psychological and family support services, and Director of research and training department); and 3) Lower management represented by the supervisors of the educational programs (early childhood, school-age unit for mild/moderate, school-age unit for severe/profound, school-age unit for ASD, and the vocational rehabilitation

program) along with the heads for the different services (medical services, rehabilitation services, psychological services, family support services, and social work services).

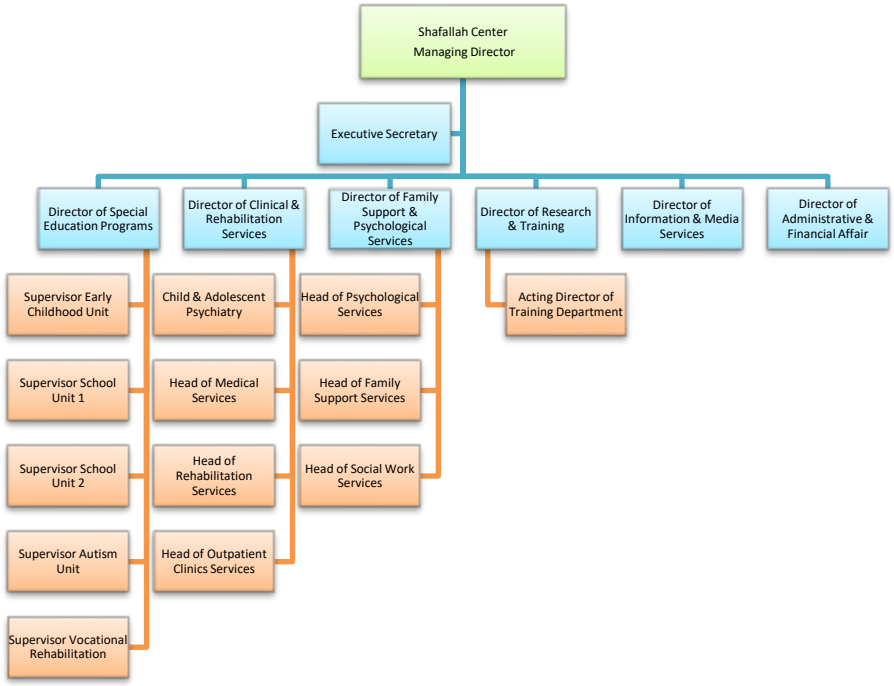

Figure 1. Organizational Chart: Shafallah Center for Children with Special Needs.

On December 2016, Shafallah Center launched its new identity. Shafallah Center for Children with Special Needs was changed into 'Shafallah Center for Integration for the Disabled'. This change was further reflected not only in the center's name and logo but also on the overall vision and mission. The Center aims to provide specialized services in accordance to best practices to achieve maximum independence for individuals with intellectual disabilities & Autism Spectrum Disorders, and to spread disability awareness through a highly efficient team of world-class programs. In addition, there was a change in the overall management of the Center as it became a part of the

Qatar Foundation for Social Work (QFSW) and the Board of Directors have been eliminated. At present the Chief Executive Officer of QFSW is the Acting Executive Director of Shafallah Center.

Data Collection

A descriptive survey data collection was employed in this study to examine school personnel's knowledge and skill level in FBA and PBS as well as their professional development needs. Critical analysis of FBAs/BIPs documents were also used to evaluate the degree to which FBAs and BIPs were being implemented at Shafallah Center. The Special Education In-service Needs Assessment, the Positive Behavior Supports Implementation Survey, Demographic Survey, and FBAs/BIPs Rating Scale were the primary data sources for this study to obtain a comprehensive understanding about FBA and PBS implementation and professional development needs of special educators and support personnel working with children with challenging behaviors. The Special Education In-service Needs Assessment was used to assess school personnel professional development needs and their current skill level in FBA procedures. The Positive Behavior Supports Implementation Survey was used to assess teacher knowledge and skills of PBS. Simultaneously actual FBAs/BIPs were analyzed FBAs/BIPs Analysis Rating Scale.

The Special Education In-Service Needs Assessment

The Special Education In-service Needs Assessment is a two-page questionnaire that was developed by Pindiprolu, Peterson, and Berglof (2007) to collect information on school personnel professional development needs and their current skill level in FBA

procedures. Although there were no studies on the psychometric properties of the questionnaire, it was developed by an expert with an extensive experience in the field of teaching FBA and positive behavior interventions. The survey is applicable to a wide range of disciplines and settings and consists of four sections (Appendix A). The first section includes demographic information of the participant such as their primary role (teacher, administrator, or support staff) and their field (general education, special education, or other). In the second section, participants were asked to rate their professional development needs and their colleagues' professional needs on a 4-point Likert scale (none, low, moderate, and high). In the third section, participants were asked to rate their skill level in eight FBA areas on a 4-point scale (none, low, moderate, and high). The eight FBA areas include: participants' skills in interviewing caregivers, identification of problem behavior and defining it, recording procedures for measuring problem behaviors, predicting problem behavior based on observational data, determining purpose of problem behavior, developing intervention plans, conducting ongoing assessment, and hypothesis testing of the purpose of problem behavior. Finally, in the last section, participants indicated their preferred format of in-service professional development, their top three preferred choices, and the most highly needed area of training at Shafallah Center. Although there were no studies on the psychometric properties of the questionnaire, it was developed by an expert with an extensive experience in the field of teaching FBA and positive behavior interventions.

Positive Behavior Supports Implementation Survey

In addition to the Special Education In-service Needs Assessment, special educators and support staff completed the Positive Behavior Supports Implementation

Survey. The Positive Behavior Supports Implementation Survey was developed by two experts with an extensive experience in the field of PBS (Chitiyo & Wheeler, 2009). The survey comprised of best practices in PBS indicated in the research literature (Crone & Horner, 2003; Wheeler & Richey, 2005). The Positive Behavior Supports Implementation Survey is a self-assessment instrument that assessed school personnel perception of the challenges and difficulties in implementation of PBS. The questionnaire consisted of five questions that combined Likert-type format question, checklist format question, and open-ended questions (Appendix B). The first question was a Likert-type format where participants were asked to rate the degree of difficulty in implementation on a 7-point likert scale where 1 indicating the least difficult and 7 indicating the most difficult. The first question consisted of 24 items organized into four categories: 1) specific skills; 2) techniques; 3) shared values; and 4) other areas. The specific skills category comprised of the following skills: understanding the basic fundamental principles of PBS, conducting FBA, collecting and recording data, using graphs to represent data, data interpretation, and formulating hypotheses using data from FBA. The techniques category included: Use of reinforcement to promote desired behavior, use of curriculum modifications to prevent challenging behavior, using instructional antecedent management to prevent challenging behavior, teaching alternative/replacement behaviors, use of observations as a method of data collection procedure, developing behavior support plans, implementing behavior interventions, and evaluating interventions. The shared values category included: using team based approach, having support from administration, collaborating with families, and raising PBS awareness among staff. Other areas category referred to difficulties related to understanding PBS terminology,

having large class sizes, time constrain, and availability of resources. In the second question, a checklist format, participants were asked to check which data collection methods they used in the implementation of PBS in their classroom/school (structured interviews, scatter plot, observational recording, frequency count, and using a variety of FBA data collection methods). The last three questions in the survey (questions 3-5) were open ended questions in which participants were asked to indicate the problems they encountered during PBS interventions process, the areas in which they needed technical assistance, and things they might do in a different way if they were to redo the implementation of PBS in their classroom/school.

Demographic Survey

In addition to the Special Education In-service Needs Assessment and the Positive Behavior Supports Implementation Survey, participants completed a survey for demographic information. The demographic survey consists of two sections: 1) information about the practitioner and 2) information about the students served by the practitioner (Appendix C). The first section included demographic information about the practitioner including age, gender, nationality, educational level, discipline, years of experience, years of experience working in Qatar, previous training in working specifically with children with problem behaviors, previous training in PBS, and familiarity with the term FBA. The second section provides information about the students with disabilities that the practitioner worked with including: caseload, percentage of caseload comprising children with problem behaviors, children's age, and type of disability. Lastly, participants were asked to indicate type of behaviors exhibited by the children they work with in their current caseload (defiance and non-compliance,

destruction, disruption, physical aggression, self-injury, social withdrawal, socially inappropriate behaviors, stereotype behaviors, and verbal aggression).

FBAs/BIPs Analysis Rating Scale

The FBAs/BIPs Analysis Rating Scale was developed by four experts in the field of ABA and FBA (Van Acker, Boreson, Gable, & Potterton, 2005). The survey comprised of best practices in FBA procedures and BIP development as indicated in the research literature. The FBAs/BIPs Analysis Rating Scale allow for critical analysis of FBA and BIP documents. Analysis is guided through an operational definition for each key variable of FBA procedure and BIP development. The rating scale allowed for two types of analyses: a) absence or presence of each key variable, and b) the quality of each variable. Each variable was rated using a 5-point Likert rating scale (0 = missing, 1 = poor, 2 = fair, 3 = average, 4 = good, and 5 = excellent) (Appendix D). The rating scale allowed an analysis of the following areas: 1) the composition of the IEP team members accountable for FBA/BIP development; 2) identification and definition of the target behavior(s); 3) identification and verification of the hypothesized function of the target behavior; 4) FBA data collection methods and triangulation of data; 5) identification of context variables that impact the target behavior; 6) verification of the hypothesized function; 7) linking of FBA data in BIP; 8) identification of alternative behaviors and use of positive behavioral supports; and, 9) monitoring and evaluation of the BIP.

Procedures

This section provides an outline of the procedures employed to collect data for the research study. Study procedures included: survey translation procedures, general

procedures related to ethical approval to conduct the study, data collection procedures, and FBAs/BIPs documents analysis procedures.

Survey Translation Procedures

As the study was conducted in Qatar, an initial yet critical step involved translation the three sureys (Special Education In-service Needs Assessment, and the Positive Behavior Supports Implementation Survey, and Participants' Demographic Survey) from English to Arabic. In order to ensure equivalence and accuracy of translation, "Forward-Back Translation Approach" was utilized for both the Special Education In-service Needs Assessment, and the Positive Behavior Supports Implementation Survey, while a "one shot/forward only" was used to translate the Demographic Survey (Chen & Bates, 2005). "Forward-Back Translation Approach" is the most frequently used approach in instrument translation across different languages and cultures. The first step started with "forward translation" in which the instrument is translated from the original language (English) to the target language (Arabic) by two bilingual forward translators (fluent in both English and Arabic) as well as being experts in the field of special education. For this study, expert translators for the forward translation comprised of the researcher along with two experts working in Qatar, who had doctoral degrees in special education and have been working with children with problem behaviors for over 18 years. Once an agreement was reached among the researcher and the tow experts on the final Arabic version, a final Arabic version of the surveys were produced. The second step involved "back translation" in which the Arabic versions were translated from Arabic back to English by another two bilingual experts in the field of special education who had 15 years of experience working in Qatar. The final version

was then reviewed by the two experts for language equivalency and meaning of each item in the surveys (see Appendix E for Arabic translated version of the Special Education In-service Needs Assessment and the Positive Behavior Supports Implementation Survey).

For the Participants' Demographic Survey, a "one shot/forward only" was used to translate the survey from English to Arabic. As the researcher was bilingual and fluent in the target language (Arabic) as well as expert in the subject matter, this type of translation method was the appropriate strategy (Chen & Bates, 2005). A "one shot/forward only" translation strategy usually involves translation of an instrument by one or more bilingual translators from its original language into the target language. The researcher along with an expert, who had a doctoral degree in special education and have been working with children with problem behaviors for over 20 years, served as the two expert translators. Two independently translated versions of the demographic surveys were deliberated, and the two researchers agreed on a final Arabic version (see Appendix F for the Arabic version of the Participants' Demographic Survey).

Ethical Approval procedures

Ethical approval to conduct the study was obtained from the University of Oklahoma-Norman Campus Institutional Review Board (OU-NC IRB). Also, ethical approval was obtained from the study site, Shafallah Center for Children with Special Needs, to collect data and conduct study at the center (Appendix G). Permission to use the Special Education In-service Needs Assessment and the Positive Behavior Supports Implementation Survey was obtained from the questionnaire developers via electronic mail communications (Appendices H). Approval was granted from survey developers.

Survey Procedures

In the first step of survey data collection, the researcher met with the Acting Head of Development and Training Department at Shafallah Center to establish rapport and make decision regarding as it relate to participants' recruitment and data collection process for study surveys. The researcher and the Acting Head agreed to set a time on June 9, 2011 for all participants who wished to participate in the study to attend at the Shafallah Auditorium. The Acting Head sent an email communication to all special educators, paraeducators, psychologists, and other support professionals at Shafallah Center with an invitation to participate in the study. The chosen date was selected as it was the last week for the Shafallah Center employees prior to closing for the summer vacation.

The researcher prepared survey packets which included: 1) Cover Letter informing participants of purpose of the study, participation is voluntary, and assure confidentiality and that no identifiable information would be reported; 2) Information sheet that served as consent for participation in the study; (3) Special Education In-service Needs Assessment; and 4) Positive Behavior Supports Implementation Survey. The survey packets were available in both Arabic and English versions depending on the participant's language preference. There were no personally identifying information used on the surveys and only identification code number was used for the demographic data. By completing the surveys, participants gave informed consent to participate in the study. In addition, participants were informed that their participation is confidential, and that no identifiable information will be reported. Further, surveys were distributed and collected personally by the researcher to ensure confidentiality.

FBAs/BIPs Documents Procedures

For the FBAs/BIPs documents analysis procedures, a simple random sampling strategy was used to select completed FBAs and BIPs. A random sample was selected where every 5th student was chosen from the list of students with problem behaviors receiving behavior interventions at the time of the study. The researcher requested that any identifier information of the target student and the professionals working with the student removed from all FBAs/BIPs documents to protect students' confidentiality. Each FBA/BIP was then analyzed and rated by the researcher using the FBAs/BIPs Analysis Rating Scale.

Data Analysis

Data analysis was an ongoing process throughout the study. For the survey component of the study, data were analyzed using descriptive statistics including means, percentages, frequencies, and maximum and minimum for the sample as a whole as well as the various sub-groups of participants (special educators, paraeducators, psychologists, and other support professionals). Scale items analyses were conducted using SPSS 21.0 (Statistical Package for the Social Sciences). For the Special Education In-Service Needs Assessment, data were analyzed according to the means and percentages of "high" ratings of their professional development need areas as well as their colleagues for all the participants and the sub-groups. The three most frequently indicated professional development need areas were identified. Data were also analyzed for differences of perceived professional development based on professional disciplines. For participants' perception of their current skill levels with FBA, data analysis included means and

percentages of FBA areas that have rankings of “low” and “high” skill levels. Percentages of preferred method of in-service delivery were identified as well as the top three choices. In addition to identification of the top professional development need areas that were identified by participants.

Data analysis for the first question in the Positive Behavior Supports Implementation Survey included the mean difficulty ratings for each of the 22 items of PBS implementation components as well as the mean difficulty ratings for each category (Skills, techniques, shared values, and other areas). Mean difficulty ratings were identified for the sample as a whole and for the sub-groups. For the second question, percentages of the various data collection methods used by participants in the implementation of PBS in their classroom/school were reported. Data analysis for qualitative data in questions 3 to 5 included thematic analysis of participants’ perception of challenges they were faced with during PBS implementation, the areas they required technical assistance in, and things they would do differently if they were to redo the PBS implementation in their center.

FBA/BIPs were analyzed for information regarding the composition of the IEP team accountable for the development of the FBA/BIPs. For the adequacy of the critical components of the FBA, each FBA/BIP was carefully examined for presence/absence of each component as well as the quality level of the information provided for each component (1 = poor, 2 = fair, 3 = average, 4 = good, and 5 = excellent). Lastly, BIPs were analyzed to determine to what level they were informed by the FBA.

Validity and Reliability

The instruments utilized to collect data for this study were developed by experts with an extensive experience in the field of FBA and PBS interventions (Chitiyo & Wheeler, 2009; Pindiprolu, Peterson, & Berglof, 2007; Van Acker, Boreson, Gable, & Potterton, 2005). Because the instruments used in this study had no established validity and reliability, the study psychometric properties were enhanced by using the three tools together to examine FBA and PBS practices at Shafallah Center. Both the Special Education In-service Needs Assessment and the Positive Behavior Supports Implementation Survey were used to examine participants' current skill level as it relates to FBA procedures. Simultaneously, the use of FBAs/BIPs Analysis Rating Scale added another dimension of depth to the data collection to provide a better understanding to to FBA and PBS procedures as it relates to what is actually being delivered to students with problem behaviors at Shafallah Center. The use of the three tools together in a single study allowed for the instruments to complement each other by offsetting the biases or weaknesses inherited in each tool and capitalizing on the strengths of each tool. Thus, the validity of the study was enhanced by employing the three measurement tools to better capture the data to address the research questions alongside the use of "Forward-Back translation" procedures which assured that the instruments were clear and unambiguous.

CHAPTER 4: Results

Introduction

A convenience sample of special educators and support staff working at Shafallah Center was used for this study. A total of 172 survey packets were distributed to school personnel working with students with problem behaviors. Of the 172 surveys distributed, a total of 168 questionnaires were used in the data analysis. Seven (7) of the surveys were not included in the data analysis, as the surveys were incomplete, and participants did not answer a majority of the questions. Accordingly, the final usable sample was 168 participants. The majority of participants opted to complete the surveys in Arabic with the exception of two participants who completed the surveys in English. Thus, the total number of Arabic surveys was 166 and the total number of English surveys was 2 surveys.

Demographic Survey

School Personnel Characteristics

A total of 168 professionals completed the Participants' Demographic Survey. Of the total participants, 86 (51%) were special education teachers, 65 (39%) were paraeducators (teacher's aids), 13 (8%) were psychologists, and 4 (2%) were support professionals. The support professionals included one related service therapist (Occupational Therapist), two Art teachers, and one Physical Education teacher. There were 63 (37%) male and 105 (63%) female participants. Figure 2 provides a chart graph representation of the number of participants according to their current roles at the Shafallah Center.

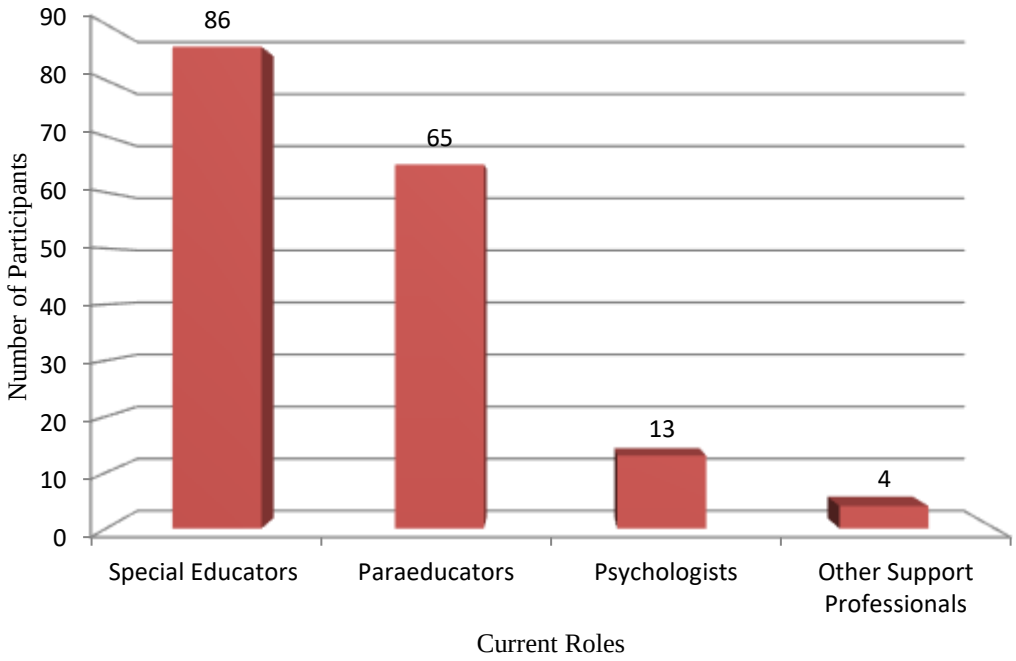

Figure 2. Number of Participants According to their Current Roles (N = 168)

In general, participants varied in their nationality, age, educational attainment level, and total years of experience. Overall, fourty-eight percent (n = 80; 48%) of the participants were Qatari while the remaining fifty-two percent (n = 88; 52%) were Non-Qatari. The majority of the Non-Qatari participants were from Arabic countries including: Egypt (n = 34; 20%), Jordan (n = 15; 9%), Tunisia (n = 6; 4%), Sudan (n = 5; 3%), Oman (n = 2; 1%), United Arab Emirates (n = 1; 0.5%), and Kingdom of Saudia Arabia (n = 1; 0.5%). Two participants were from the United States of America (n = 1; 0.5%) and Somalia (n = 1; 0.5%); while twenty-two (13%) of the Non-Qatari did not specify their nationality. Concerning disciplines, only a quarter of the special educators were of Qatari nationality (n = 22; 26%), while the majority (n = 64; 74%) were non-Qatari. On the other hand, Qatari (n = 58; 89%) made up the majority of the

paraeducators, while only eight (n = 7; 11%) were non-Qatari. Of the total psychologists, only one (n = 1; 8%) was Qatari while the remaining (n = 12; 92%) were non-Qatari. Figure 3 provides a chart graph representation of the number of participants according to their nationality.

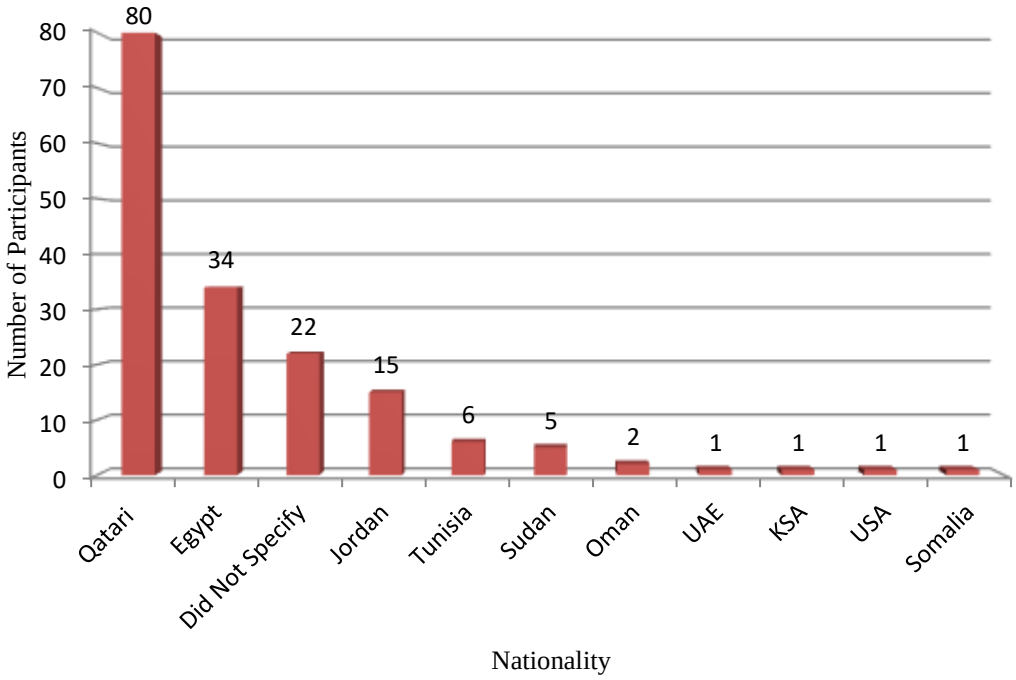

Figure 3. Number of Participants According to their Nationality

Regarding age distribution of the participants, the majority (n = 71; 42%) were in the 21-30 years old category, followed by sixty-nine participants (n = 69; 41%) in the 31-40 years old category, seventeen (n = 17; 10%) in the 41-50 years old category, seven (n = 7; 4%) were in the 51-60 years old category, three (n = 3; 2%) were in the 20 years old or younger category, and only one participant (n = 1; 1%) was older than 60 years old. Accordingly, the majority of participants (n = 140; 83%) were in the middle-aged range.

Table 3 presents the descriptive statistics for the sample participants according to age groups.

Table 3

Study Sample According to Age (N = 168)

Variables (Age)	n	Percent (%)	Cumulative (%)
20 years old or younger	3	2	2
21-30 years old	71	42	44
31-40 years old	69	41	85
41-50 years old	17	10	95
51-60 years old	7	4	99
Older than 60 years old	1	1	100

Concerning the educational attainment levels of participants, the majority (n = 72; 43%) of respondents had earned a Bachelor's degree; forty-two (n = 42; 25%) had a high school diploma, twenty-five (n = 25; 15%) had post graduate diploma; eighteen (n = 18; 10%) had Associate's degree, ten (n = 10; 6%) had a Master's degree, and only one (n = 1; 1%) participant had a Doctoral degree. With regard to the special educators, the majority (n = 49; 57%) had a Bachelor's degree, about a quarter (n = 23; 27%) had post graduate diploma, thirteen (n = 13; 15%) had an Associate degree, and only one (n = 1; 1%) had a Master's degree. The majority (n = 42; 65%) of paraeducators had a high school diploma, while fifteen (n = 15; 23%) had a Bachelor's degree, five (n = 5; 8%) had an Associate degree, two (n = 2; 3%) had a post graduate diploma, and only one (n = 1; 1%) had a Master's degree. For the psychologists' sample approximately half (n = 6; 46%), and the other half had a Master's degree (n = 6; 46%). Only one psychologist had a

Doctoral degree in clinical psychology (n = 1; 8%). Figure 4 provides a chart graph representation of the number of participants according to levels of educational attainment.

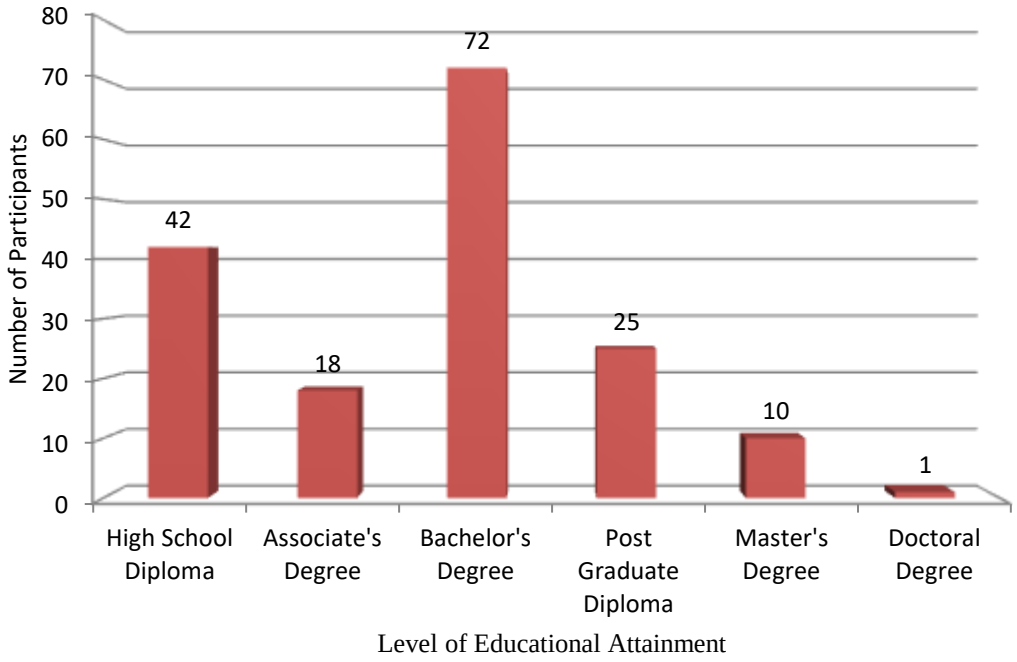

Figure 4. Number of Participants According to Levels of Educational Attainment (N-168)

With regard to the major of study, the majority of special educators (n = 63; 73%) had their degrees in Special Education, while nearly a quarter (n = 23; 27%) had their degrees in other majors. The major of degrees varied ranging from Sociology (n = 6; 7%) to Arabic Literature (n = 3; 4%) to Religious Studies (n = 3; 4%) to Art (n = 2; 3%). The remaining majors of study (Psychology, Biology, English Literature, Science, Business Administration, History, Geography, Social work, and Physical education) with one participant (n = 1; 1%) having a degree in each major for a total of nine special educators.

Table 4 presents the frequencies and percentages of Special Educators according to major of study.

Table 4

Special Educators Sample According to Major of Study

Variables (Major of Study)	n	Percent (%)	Cumulative (%)
Special Education	63	73	73
Sociology	6	7	80
Arabic Literature	3	4	84
Religious Studies	3	4	88
Art	2	3	91
Psychology	1	1	92
Biology	1	1	93
English Literature	1	1	94
Sciences	1	1	95
Business Administration	1	1	96
History	1	1	97
Geography	1	1	98
Social Work	1	1	99
Physical Education	1	1	100

Out of the total number of paraeducators (n = 65), only twenty-three (n = 23; 35%) had a degree higher than high school diploma (Associate's degree, Bachelor's degree, Post graduate diploma, and Master's degree). Analysis of the major of study for paraeducators revealed the majority had a degree in Sociology (n = 9; 15%) and only one paraeducators (n = 1; 2%) had a degree in Special Education. The remaining major of

study included: Arabic Literature (n = 3; 5%), Religious Studies (n = 2; 3%), Art (n = 2; 3%), Nursing (n = 2; 3%), Education (n = 2; 3%), Mathematics (n = 1; 2%), and History (n = 1; 2%). Table 5 presents the frequencies and percentages of Paraeducators according to major of study.

Table 5

Paraeducators Sample According to Major of Study

Variables (Major of Study)	n	Percent (%)	Cumulative (%)
High School Diploma	42	65	65
Sociology	6	15	80
Arabic Literature	3	5	85
Religious Studies	2	3	88
Art	2	3	91
Nursing	2	3	94
Education	2	3	97
Mathematics	1	1	98
History	1	1	99
Special Education	1	1	100

The majority of participants (n = 51; 30%) had total years of experience in the 1-5 years category, followed by thirty-seven respondents (n = 37; 22%) in the 5-10 years category, thirty-four respondents (n = 34; 20%) had less than one year of experience, twenty-four respondents (n = 24; 14%) in the 10-15 years category, fourteen (n = 14; 8%) had more than 20 years of experience, and only eight (n = 8; 5%) in the 15-20 years category. With regard to years of experience in Qatar, analysis showed that about half of

the participants (n = 85; 51%) had all of their years of experience in Qatar while the other half (n = 83; 49%) did not half all of their years of experience in Qatar. Figure 5 provides a chart graph representation of the number of participants according to years of experience.

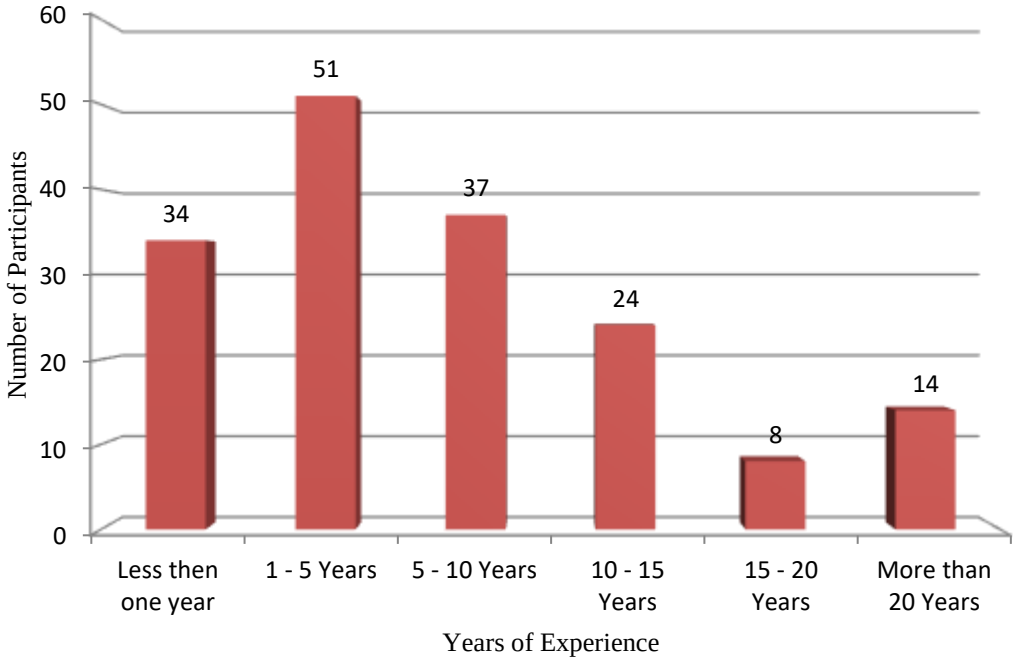

Figure 5. Number of Participants According to Years of Experience (N = 168)

In terms of pre-service professional training, the majority of participants (n = 105; 62%) indicated that their degree or study program involved specific training in working with children with problem behaviors, compared to sixty-three participants (n = 63; 38%) who did not have specific training. On the other hand, approximately half of the participants (n = 95; 56%) reported they received specific training in PBS as part of their degree or study program compared to seventy-three (n = 73; 44%) who did not have specific training in PBS. In terms of the extent to which participants felt they were

adequately prepared to work with children with problem behaviors, the majority of participants (n = 69; 41%) indicated they were “well prepared”. Sixty-four of the participants (n = 64; 38%) indicated they were “extremely well prepared”, while twenty-three (n = 23; 14%) indicated they were “somewhat prepared”, and only twelve participants (n = 12; 7%) indicated they were “not at all prepared” to work with children with problem behaviors. Figure 6 provides a chart graph representation of the number of participants according to their level of preparedness to work with children with problem behaviors.

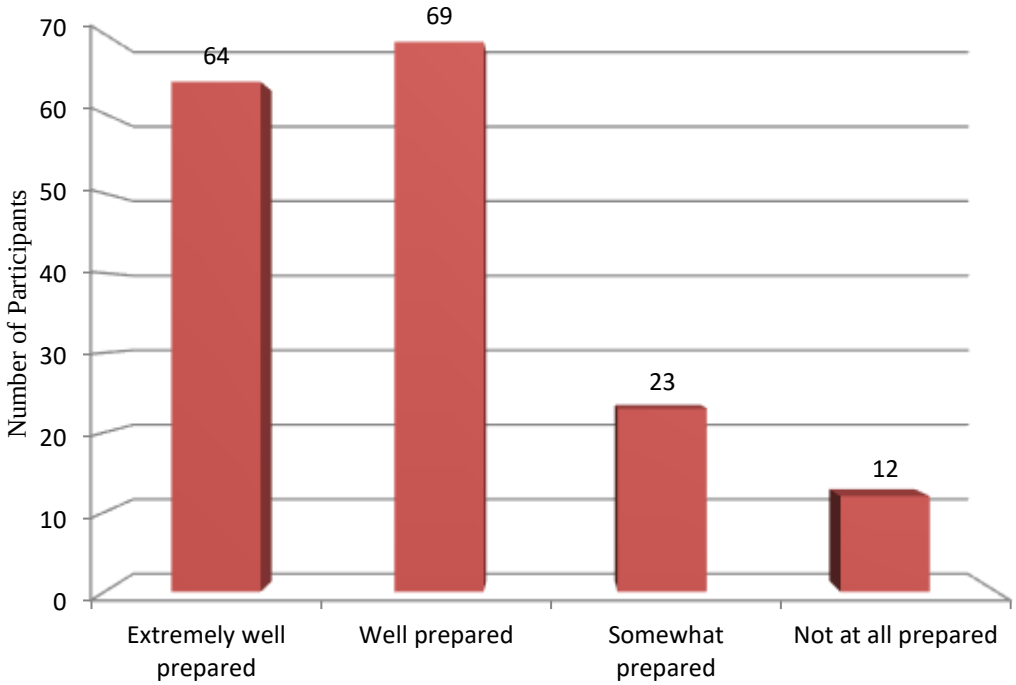

Figure 6. Number of Participants According to their Level of Preparedness (N = 168)

Analysis of the sub-groups within the participants sample showed that approximately half of the psychologists (n = 6; 46%) indicated that they were “extremely well prepared” to work with children with problem behaviors. While five of the

psychologists (n = 5; 38%) indicated they were “well prepared”, only one psychologist (n = 1; 8%) indicated being “somewhat prepared”, and only one psychologist (n = 1; 8%) indicated being “not at all prepared” to work with children with problem behaviors. With regard to the special educators, approximately half (n = 42; 49%) indicated they were “extremely well prepared” to work with children with problem behaviors. Whereas thirty-four of special educators (n = 34; 39%) indicated they were “well prepared”, nine educators (n = 9; 10%) indicated they were “somewhat prepared”, and only one educator (n = 1; 2%) indicated being “not at all prepared” to work with children with problem behaviors. Conversely, only fourteen of the paraeducators (n = 14; 21%) reported they were “extremely well prepared” to work with children with problem behaviors. Whereas the majority (n = 29; 45%) reported they were “well prepared”, twelve paraeducators (n = 12; 19%) indicated they were “somewhat prepared”, and only ten paraeducators (n = 10; 15%) indicated being “not at all prepared”. Lastly, half of the support professionals (n = 2; 50%) indicated they were “extremely well prepared” to work with children with problem behaviors. While the other two support professionals indicated being “well prepared” (n = 1; 25%), and being “somewhat prepared” (n = 1; 25%). Figure 7 provides a chart graph representation of participants’ sub-groups according to their level of preparedness to work with children with problem behaviors.

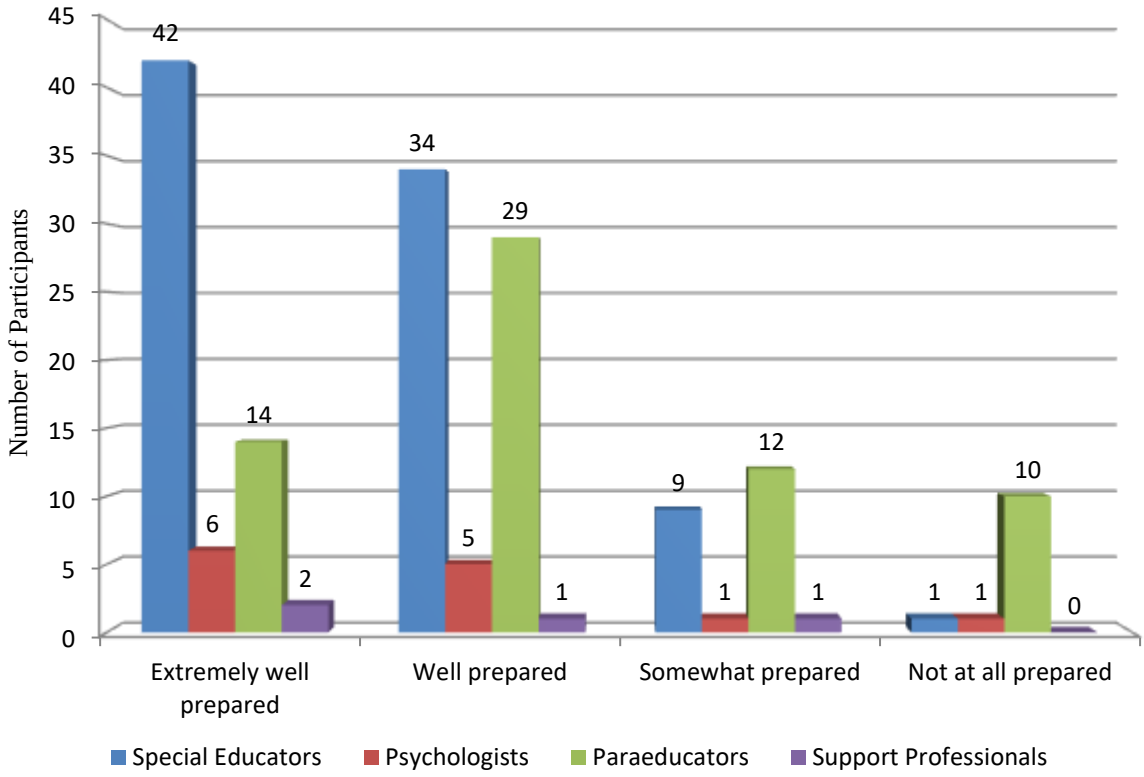

Figure 7. Number of Participants' Sub-groups According to their Level of Preparedness (N = 168)

Concerning familiarity with the term, the majority of participants (n = 56; 33%) reported they were very familiar with FBA as they are frequently discussed and/or implemented at the Center. Almost equal number of participants (n = 50; 30%) reported their level of familiarity as being able to define the term, but could not describe when and why an FBA should be implanted. The remaining participants (n = 41; 24%) indicated they heard of the term FBA but could not offer an educated definition, compared to twenty-one participants (n = 21; 13%) who were not familiar with the term at all. Figure 8 provides a chart graph representation of the number of participants according to their level of familiarity with the term FBA.

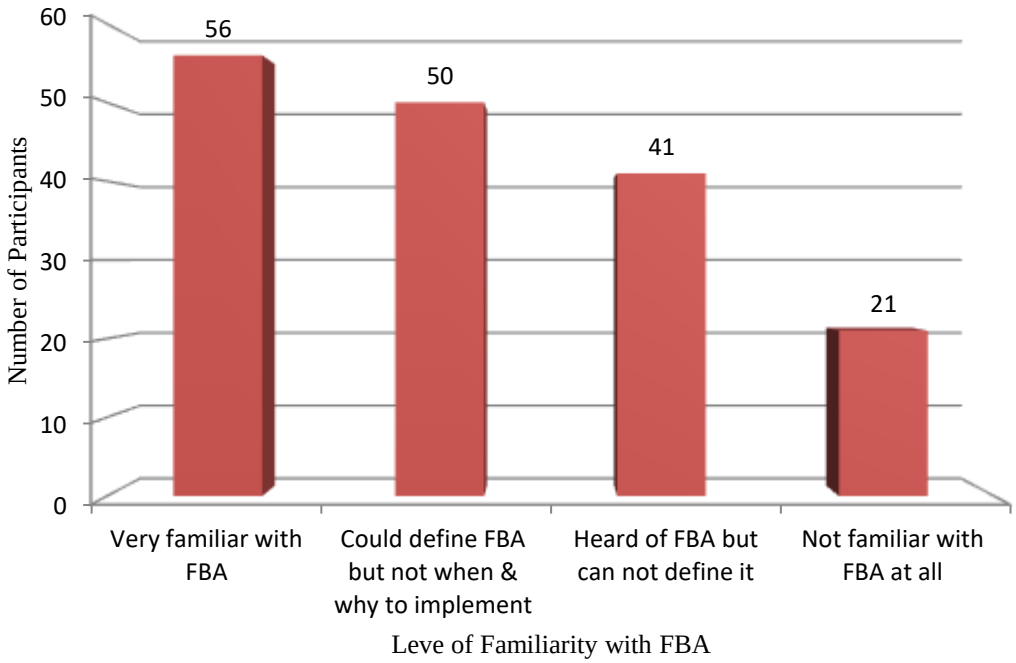

Figure 8. Number of Participants According to their Level of Familiarity with FBA (N = 168)

Analysis of the familiarity with FBA within the sub-groups showed the majority of psychologists (n = 12; 92%) reported they were very familiar with FBA compared to forty percent of special educators (n = 34; 40%), fourteen percent of paraeducators (n = 9; 14%), and only twenty-five percent of support professionals (n = 1; 25%). Followed by the remaining psychologist (n = 1; 8%) who reported being able to define the term but not when and why an FBA should be implemented, compared to thirty percent of special educators (n = 30; 35%), twenty-eight percent of paraeducators (n = 18; 28%), and only twenty-five percent of support professionals (n = 1; 25%). Of the total participants, twenty-two percent of special educators (n = 19; 22%) indicated they heard of the term FBA but could not offer an educated definition, compared to thirty-two percent of paraeducators (n = 21; 32%), and only twenty-five percent of support professionals (n =

1; 25%). Lastly, only four percent of special educators (n = 3; 4%) reported they were not familiar with the term FBA at all compared to twenty-six percent of paraeducators (n = 17; 26%), and only twenty-five percent of support professionals (n = 1; 25%). Figure 9 provides a chart graph representation of percentages of sub-groups according to their level of familiarity with the term FBA

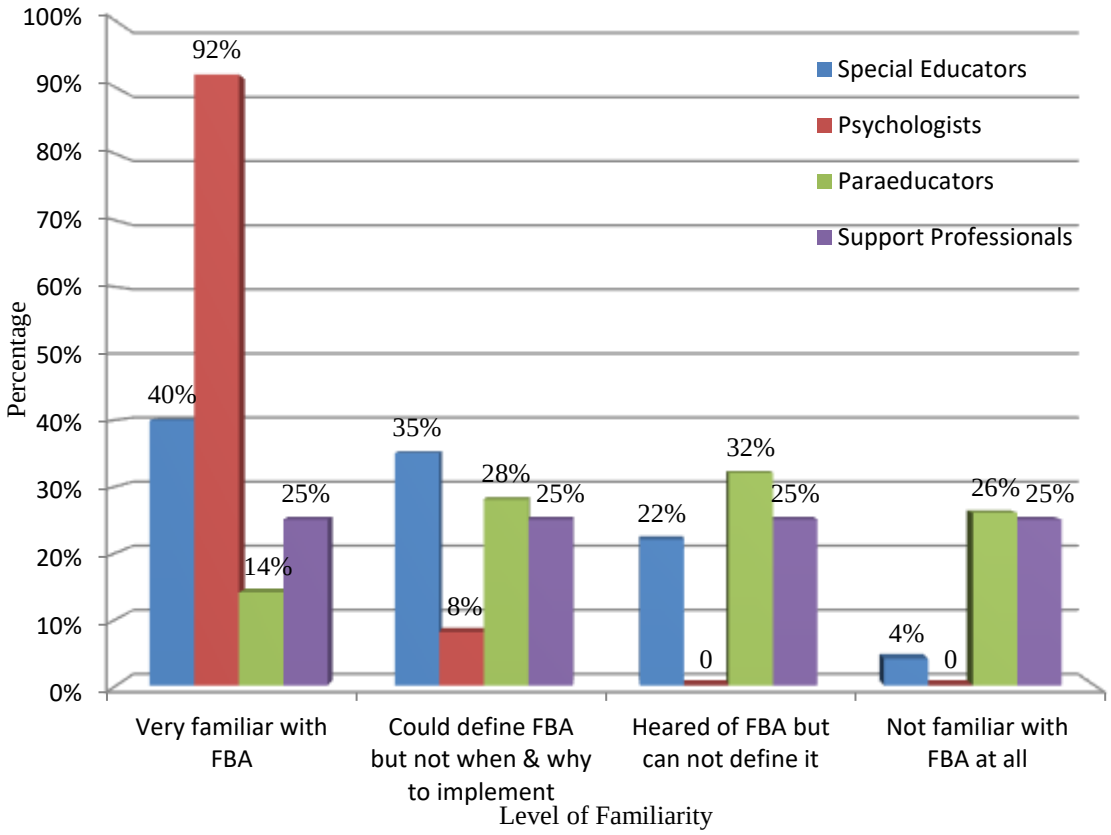

Figure 9. Percentages of Participants' Sub-groups According to their Level of Familiarity with FBA (N = 168)

Characteristics of Students

This section presents characteristics of students with disabilities that the participants work with at the Shafallah Center including: current student caseload, percentages of students with problem behaviors in caseload, students' age range, type of disabilities, and types of behaviors exhibited by the students. The majority of participants (n = 85, 51%) had a caseload between 6-10 children per day, followed by forty-seven participants (n = 47; 28%) who reported they had caseload less than 6 children per day. Fourteen participants (n = 14; 9%) reported they had a caseload between 11-15 children per day, and eleven participants reported they had a caseload between 16-20 children (n = 11; 6%) and more than 20 children a day (n = 11; 6%) respectively. With regard to the number of students with problem behaviors in the participants' caseload, the majority of respondents (n = 106; 63%) reported less than 50% of caseload, followed by twenty percent (n = 34; 20%) who reported they had a caseload of more than 50% of students with problem behaviors. Twenty-three of respondents (n = 23; 14%) reported their caseload was almost all of students with problem behaviors, compared to only five respondents (n = 5; 3%) only worked with students with problem behaviors.

Concerning the age of students in participants' caseload, the majority of respondents (n = 70; 42%) reported they worked only with school-age students (older than 6 years) in the school-age programs at the Shafallah Center. Followed by fifty-six respondents (n = 56; 33%) who reported they worked with students between the ages of 3 - 18 years old, twenty-nine respondents (n = 29; 17%) reported they worked with students older than 18 years old, and only thirteen respondents (n = 13; 8%) reported they worked only with early childhood/preschoolers (3-6 years). Table 6 presents descriptive statistics

related to participants' caseload, number of students with behavioral problems in their caseload, and age range of children in their caseload.

Table 6
Frequencies (Percentages) of Participants' Caseload (N = 168)

Variables	n	Percent (%)
Number of Children in Caseload		
Less than 6 children	47	28
Between 6-10 children	85	51
Between 11-15 children	14	9
Between 16-20 children	11	6
More than 20 children	11	6
Number of Student with Behavioral Problems in Caseload		
Less than 50%	106	63
More than 50%	34	20
Almost all	23	14
Only work with children birth to 6years	5	3
Age of Students in Caseload		
Only early childhood/preschoolers (3-6 yrs.)	13	8
Only school-age ≥ 6yrs children	70	42
Students between 3-18 yrs. old	56	33
Students older than 18 yrs. old	29	17

Concerning the type of disability of children in the participants' caseload, the majority of respondents (n = 93; 55%) reported they worked with students with all type of disabilities except hearing & visual disability. Thirty-five respondents (n = 35; 21%) reported they worked only with students with behavioral/emotional disorders (including

Autism Spectrum Disorders), twenty-four respondents (n = 24; 14%) indicated they worked only with students with intellectual disability (including Down syndrome), and only sixteen respondents (n = 16; 10%) reported they worked with children with multiple disability only. With regard to the type of behaviors exhibited by students, respondents indicated the top three major problem behaviors exhibited by students in their caseload were: defiance and non-compliance (n = 131; 78%), socially inappropriate behaviors (n = 113; 67%), and disruption (n = 111; 66%). The least problem behaviors exhibited by students were: verbal aggression (n = 56; 33%), destruction (n = 76; 45%), and social withdrawal (n = 85; 51%). Other problem behaviors exhibited by students included the following: physical aggression (n = 101; 60%), self-injury (n = 89; 53%), and **s**tereotype behaviors (n = 87; 52%).

The Special Education In-Service Needs Assessment

The Special Education In-Service Needs Assessment was used to assess participants' professional development needs and their current skill level in FBA procedures. All 168 participants completed the questionnaire which consisted of three sections: 1) participants' ratings of their professional development needs and their colleagues' professional needs, 2) participants' ratings of their skill level in eight FBA areas, and 3) participants' preferred format of in-service professional development as well as the most highly needed area of training at Shafallah Center.

Participants' Ratings of Their Professional Development Needs

The overall means across all 11 items of professional development areas were calculated for the total sample participants as well as the sub-groups (special educators,

paraeducators, psychologists, and support professionals). The overall mean ratings across all 11 items of professional development areas presented in Table 7 (including standard deviations and minimum and maximum) and Table 8.

Table 7

Participants' Ratings of Their Professional Development Needs (N = 168)

Variables	M	Mode	SD	Min	Max
Assistive technology use for children with disabilities	2.93	3	0.81	1	4
Early childhood intervention for children with disabilities	2.65	3	0.97	1	4
Effective teaching procedures for children with disabilities	2.79	3	1.03	1	4
Effective collaboration skills with parent and teachers	2.67	3	1.07	1	4
IEP development	2.65	3	1.08	1	4
Inclusion strategies	2.69	3	0.98	1	4
Intervention for behavior problems	2.80	3	1.06	1	4
Functional Behavioral Assessment	2.80	3	0.96	1	4
Restraint procedures	2.79	3	1.06	1	4
Positive and negative reinforcement	2.75	3	1.10	1	4

Note. The range was 1 to 4 (1 = None, 2 = Low, 3 = Moderate, and 4 = High).

Table 8

Mean Scores for Participants' Ratings of Their Professional Development Needs (N = 168)

Variables	M	SD
Assistive technology use for children with disabilities	2.93	0.81
Early childhood intervention for children with disabilities	2.65	0.97
Effective teaching procedures for children with disabilities	2.79	1.03
Effective collaboration skills with parents and teachers	2.67	1.07
IEP (Individual Education Plan) development	2.65	1.08
Inclusion strategies	2.65	0.98
Intervention for behavior problems	2.69	1.06
Functional Behavioral Assessment	2.80	0.96
Restraint procedures	2.79	1.06
Positive and negative reinforcement strategies	2.75	1.10
Transition services	2.64	0.91

As seen in Table 8, the highest area of professional development needs was in the area of Assistive technology use for children with disabilities (M = 2.93; SD = 0.81), while the lowest area of needs was transition services (M = 2.64; SD = 0.91). Overall, the top four areas of professional development need identified by participants were: 1) Assistive technology use for children with disabilities (M = 2.93; SD = 0.81), 2) FBA (M = 2.80; SD = 0.96), 3) Effective teaching procedures for children with disabilities (M = 2.79; SD = 1.03), and 4) Restraint procedures (M = 2.79; SD = 1.06) which was ranked as equally important as the effective teaching procedures for children with disabilities. In contrast, the lowest areas of need were: IEP development (M = 2.65; SD = 1.08),

inclusion strategies (M = 2.65; SD = 0.98), and early childhood intervention for children with disabilities (M = 2.65; SD = 0.97). Figure 10 provides a chart graph representation of the mean scores for participants' ratings of their professional development needs.

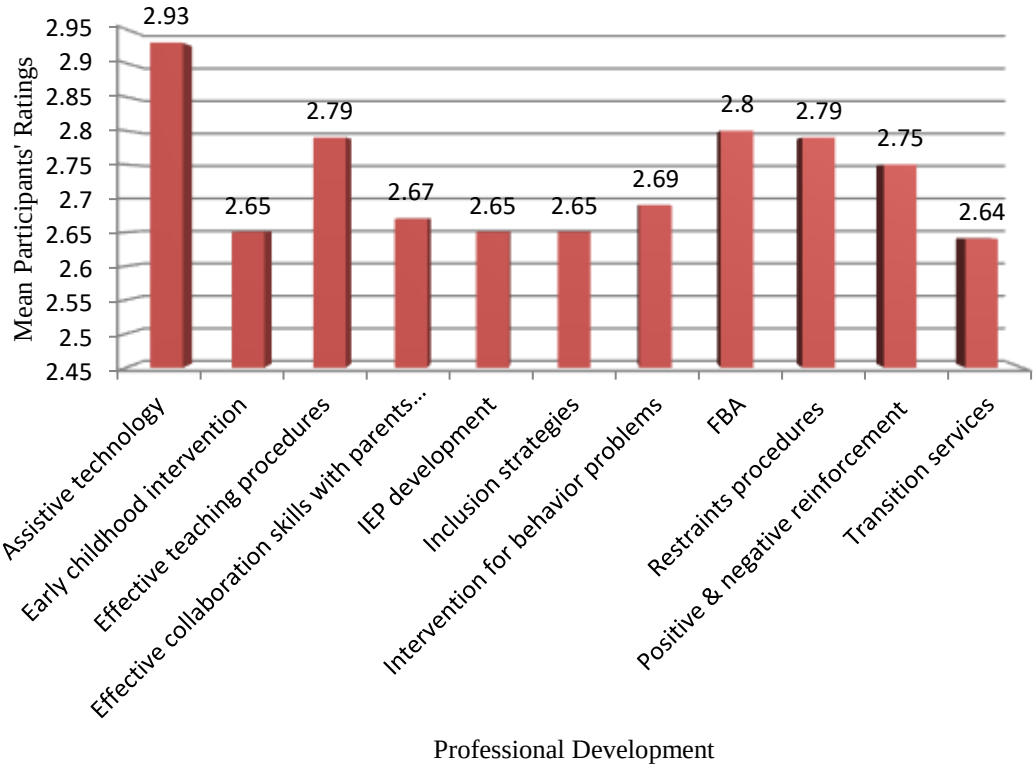

Figure 10. Mean Scores for Participants' Ratings of their Professional Development Needs (N = 168)

Data were examined across the four participants' sub-groups (special educators, psychologists, paraeducators, and support professionals. For special educators (n = 86), the highest area of professional development needs was assistive technology use for children with disabilities (M = 2.86), where 26% of special educators (n = 22) rated this area as a high need. In contrast, the lowest area of needs was effective collaboration skills with parents and teachers (M = 2.52), where 21% of special educators (n = 18) rated this

as a low need area. Overall, the top four areas of professional development need identified by special educators were: assistive technology use for children with disabilities (M = 2.86), FBA (M = 2.83), inclusion strategies (M = 2.73), and restraints procedures (M = 2.69). Figure 11 provides a chart graph representation of the mean scores for special educators' ratings of their professional development needs.

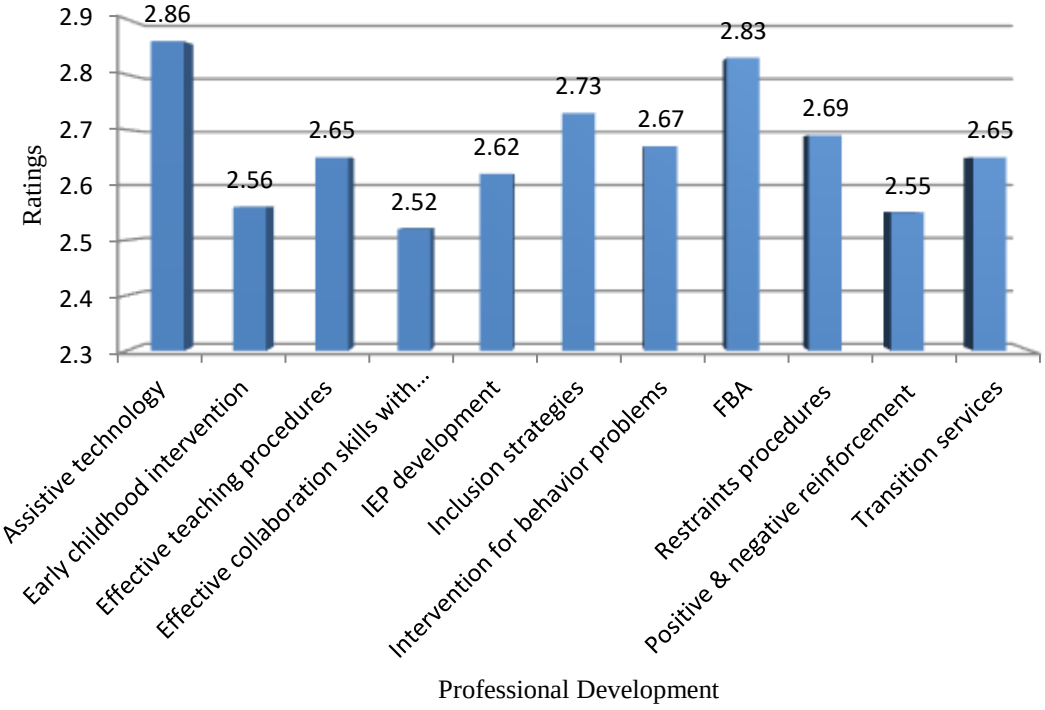

Figure 11. Special Educator' Ratings of their Professional Development Needs (N = 86)

Psychologists (n = 13) in the study identified four areas as their highest areas of professional development needs which they ranked of equal importance (M = 2.69). These areas included: assistive technology use for children with disabilities (M = 2.69), early childhood intervention for children with disabilities (M = 2.69), inclusion strategies (M = 2.69), and transition services (M = 2.69). With regard to assistive technology, the

percentage of psychologists who rated these areas as "high" need was 8% (n = 1). The same percentage was reported for the inclusion strategies need area. For the early childhood intervention for children with disabilities area, the percentage of psychologists who rated this area as a "high" need was 16% (n = 2), and for transition services was 23% (n = 3). The lowest area of needs was positive and negative reinforcement strategies (M = 2.15), where 23% (n = 3) of psychologist rated it as a "low" need area. Figure 12 provides a chart graph representation of the mean scores for psychologists' ratings of their professional development needs.

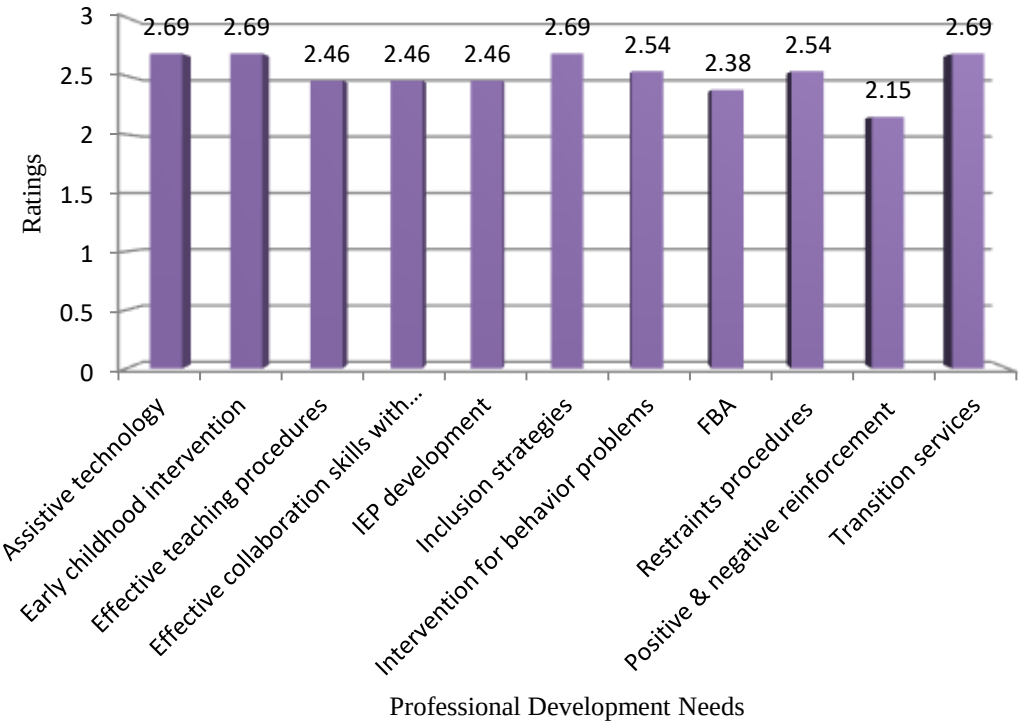

Figure 12. Psychologist' Ratings of their Professional Development Needs (N = 13)

The highest area of professional development needs for paraeducators (n = 65) was positive and negative reinforcement strategies (M = 3.19), where 40% of special

educators (n = 26) rated this area as a high need. In contrast, the lowest area of needs was inclusion strategies (M = 2.57), where 26% of paraeducators (n = 17) rated this as a low need area. Overall, the top four areas of professional development need identified by paraeducators were: positive and negative reinforcement strategies (M = 3.19), assistive technology use for children with disabilities (M = 3.06), restraint procedures (M = 3.06), and effective teaching procedures (M = 3.06). Figure 13 provides a chart graph representation of the mean scores for paraeducators' ratings of their professional development needs.

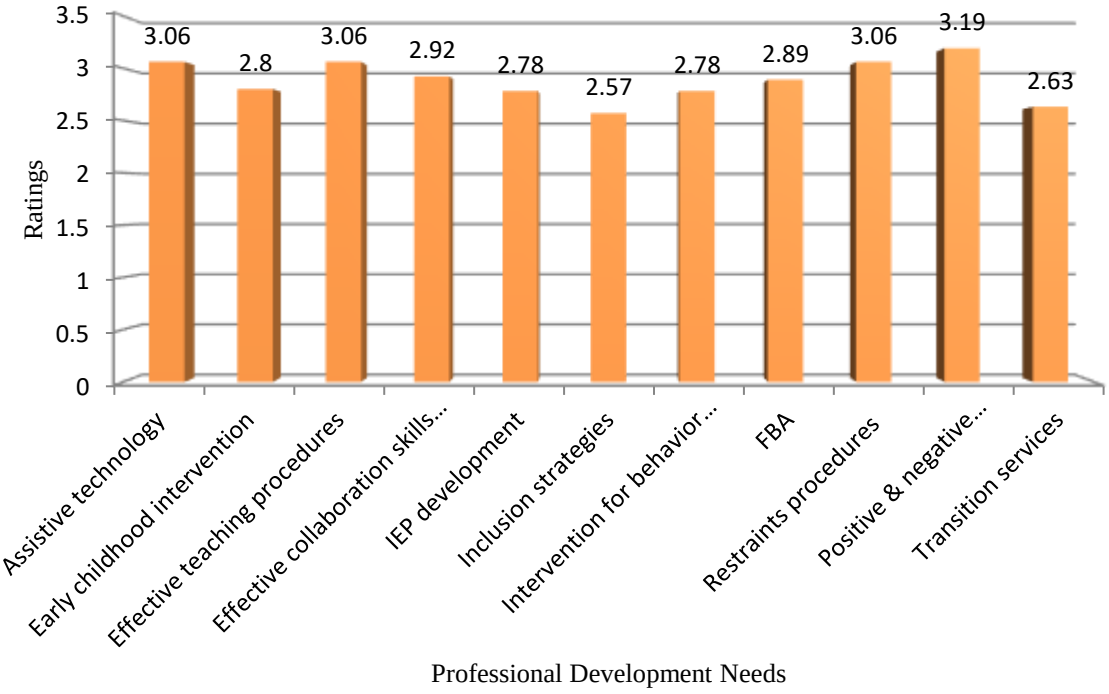

Figure 13. Paraeducators' Ratings of their Professional Development Needs (N = 65)

The highest area of professional development needs for support professionals (n = 4) was assistive technology for children with disabilities (M = 3.00), where 25% of support professionals (n = 1) rated this area as a "high" need. In contrast, the lowest area

of need was restraint procedures (M = 1.50), where 50% of support professionals (n = 2) rated this as a low need area. Overall, the top areas of professional development needs identified by support professionals were: assistive technology for children with disabilities (M = 3.00), effective teaching procedures (M = 2.50), effective collaboration skills with teachers and parents (M = 2.50), early childhood intervention (M = 2.25), inclusion strategies (M = 2.25), FBA (M = 2.25), positive and negative reinforcement strategies (M = 2.25), and transition services (M = 2.25). Figure 14 provides a chart graph representation of the mean scores for support professionals' ratings of their professional development needs.

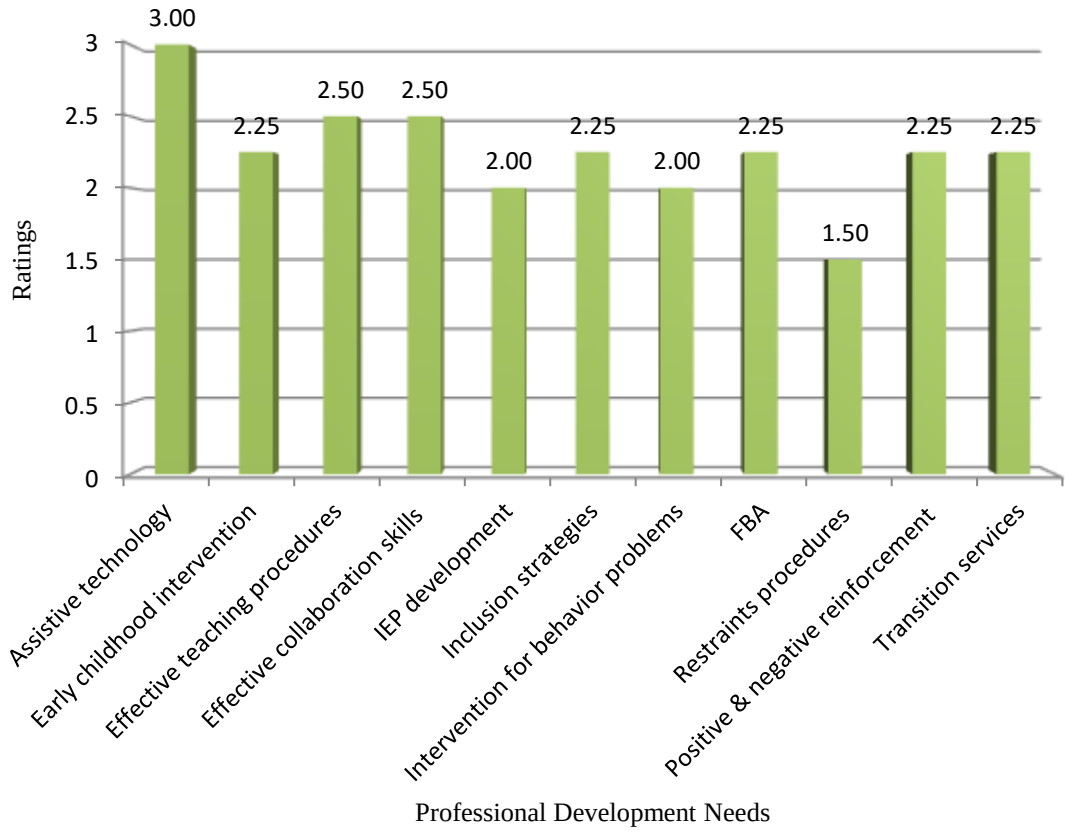

Figure 14. Support Professionals' Ratings of their Professional Development Needs (N = 4).

Table 9

Top Four Professional Development Need Areas of Sample and Subgroups

Participants (n)	Top Four Areas of need for Professional Development	Mean	Mode	Percent (%), Rate High (n)
Overall Sample (168)				
	Assistive technology	2.93	3	23 (38)
	FBA	2.80	3	26 (43)
	Effective teaching procedures	2.79	3	29 (48)
	Restraint procedures	2.79	3	30 (50)
Special Educators (86)				
	Assistive technology	2.86	3	26 (22)
	FBA	2.83	3	26 (22)
	Inclusion strategies	2.73	3	26 (22)
	Restraint procedures	2.69	3	29 (25)
Psychologists (13)				
	Assistive technology	2.69	3	8 (1)
	Early childhood intervention	2.69	3	16 (2)
	Inclusion strategies	2.69	3	8 (1)
	Transition services	2.69	3	23 (3)
Paraeducators (65)				
	Positive & negative reinforcement strategies	3.19	3	40 (26)
	Assistive technology	3.06	3	22 (14)
	Restraint procedures	3.06	3	26 (17)
	Effective teaching procedures	3.06	3	14 (9)
Support Professional (4)				
	Assistive technology	3.00	3	25 (1)
	Effective teaching procedures	2.50	2	0 (0)
	Effective collaboration skills	2.50	1	25 (1)
	Early childhood intervention	2.25	3	0 (0)
	Inclusion strategies	2.25	2	25 (1)
	FBA	2.25	3	0 (0)
	Positive & negative reinforcement strategies	2.25	2	0 (0)
	Transition services	2.25	2	25 (1)

Table 9 presents the highest four areas of professional development needs across the sample of participants as well as the four subgroups within the sample of participants.

Participants' Ratings of Colleagues Professional Development Needs

The overall means across all 11 items for participants' perceived areas of need for professional development for their colleagues were calculated for the total sample participants as well as the sub-groups. The overall mean ratings for participants' perceived need areas for their colleagues presented in Table 10.

Table 10

Mean Scores for Participants' Perceived Areas of Professional Development Needs for their Colleagues (N = 168)

Area of Professional Development Need	M	Mode
Assistive technology use for children with disabilities	3.14	3
Early childhood intervention for children with disabilities	2.99	3
Effective teaching procedures for children with disabilities	3.14	3
Effective collaboration skills with parents and teachers	3.16	3
IEP (Individual Education Plan) development	3.16	3
Inclusion strategies	3.11	3
Intervention for behavior problems	3.23	3
Functional Behavioral Assessment	3.20	4
Restraint procedures	3.24	3
Positive and negative reinforcement strategies	3.18	3
Transition services	3.07	3

As seen in Table 10, the highest area of participants perceived professional development needs for their colleagues was in the area of restraint procedures (M = 3.24),

where 41% of participants (n = 69) perceived this area as a "high" need for their colleagues. While the lowest area of perceived needs was early childhood intervention for children with disabilities (M = 2.99), where 13% of participants (n = 22) perceived this area as a "low" need for their colleagues. Overall, the top four areas of participants perceived professional development need for their colleagues were: restraint procedures (M = 3.24), intervention for behavior problems (M = 3.23), FBA (M = 3.20), and positive and negative reinforcement strategies (M = 3.18) (see Table 11). In contrast, the lowest areas of need were: early childhood intervention for children with disabilities (M = 2.99), transition services (M = 3.07), and inclusion strategies (M = 3.11). Figure 15 provides a chart graph representation of the mean scores for participants perceived professional development needs for their colleagues.

Table 11

Top Four Participants' Perceived Professional Development Need Areas for their Colleagues

Participants (n)	Top four areas of need for professional development	Means	Mode	Percentages (%), Rated High (n)
Overall Sample Size (168)				
	Restraint procedures	3.24	3	41 (69)
	Intervention for behavior problems	3.23	4	42 (70)
	FBA	3.20	3	41 (69)
	Positive & negative reinforcement strategies	3.18	3	40 (67)

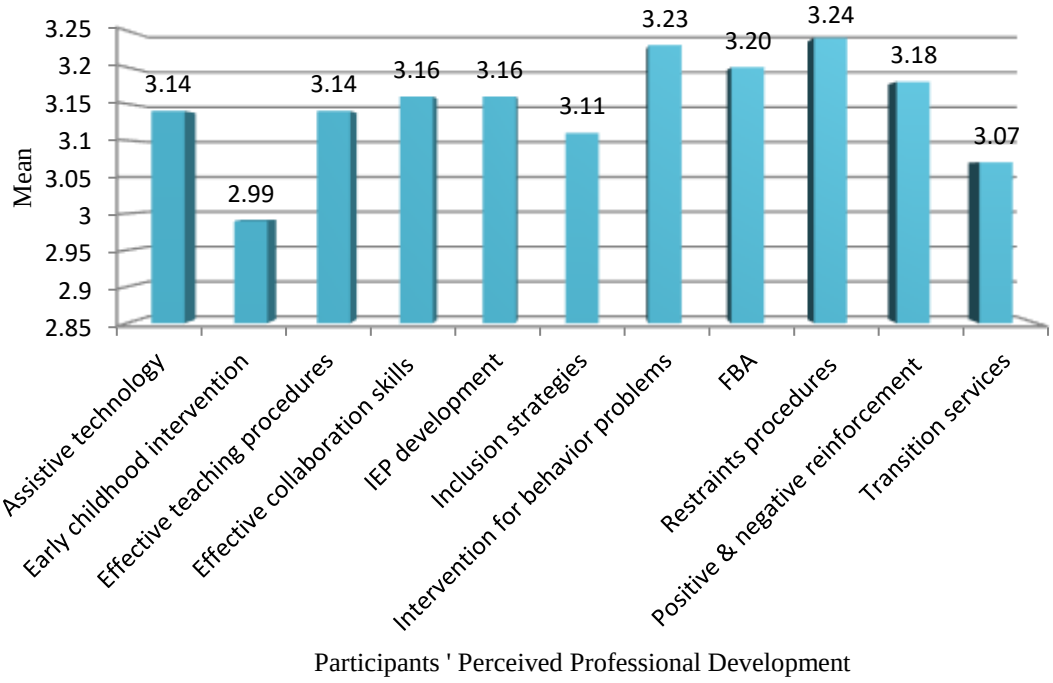

Figure 15. Mean Scores for Participants' Perceived Professional Development Needs of Their Colleagues (N = 168)

When data were examined across the four participants' sub-groups (see Table 12), special educators (n = 86) perceived the highest areas of professional development needs for their colleagues were: restraint procedures (M = 3.12) where 36% of special educators (n = 31) rated this as a "high" need area for their colleagues, and intervention for behavior problems (M = 3.10) rated by 35% of special educators (n = 30) as a "high" need area. In addition to FBA, inclusion strategies, assistive technology, and IEP development which they perceived to be of equal importance (M = 3.07). In contrast, the lowest perceived areas of needs for their colleagues were: early childhood intervention for children with disabilities (M = 2.86), effective collaboration skills with parents and teachers (M = 2.95), and Transition services (M = 2.95).

With regard to psychologists (n = 13), the top three areas of perceived high professional development need for their colleagues rated of equal importance (M = 3.54) were: restraint procedures, FBA, and positive and negative reinforcement strategies. Additionally, both intervention for problem behaviors and effective collaboration skills with parents and teachers were rated of equal and high importance (M = 3.23). Areas of perceived low needs were: IEP development (M = 2.62), early childhood intervention for children with disabilities (M = 2.92), and effective teaching procedures for children with disabilities (M = 2.92). Concerning paraeducators (n = 65), the highest perceived area of needs for their colleagues was effective collaboration skills with parents and teachers (M = 3.43) rated as "high" by 51% (n = 33) of paraeducators. In addition to intervention for problem behaviors (M = 3.40), IEP development (M = 3.40), and positive and negative reinforcement strategies (M = 3.38). Whereas the lowest area of perceived need for their colleagues was inclusion strategies (M = 3.14) rated by 11% (n = 7) of paraeducators as of "low" importance. Also, both early childhood interventions for children with disabilities and transition services were rated as "low" areas of needs (M = 3.23). In contrast, support professionals perceived the highest area of needs for their colleagues was inclusion strategies (M = 3.75) rated as "high" by 75% (n = 3) of support professionals. Four areas were also perceived as "high" need and equally important (M = 3.00) included: intervention for problem behaviors, effective collaboration skills with parents and teachers, IEP development, and transition services. Lastly, support professionals rated the following areas as equally of "low" importance (M = 2.25): early childhood intervention, effective teaching procedures, and positive and negative reinforcement strategies.

Table 12

Top Four Participants' Perceived Professional Development Need Areas for Their Colleagues According to Subgroups

Participants (168)	Top Four Areas of need for Professional Development	Mean	Mode	Percent (%), Rate High (n)
Special Educators (86)				
	Restraint procedures	3.12	3	36 (31)
	Intervention for behavior problems	3.10	3	35 (30)
	FBA	3.07	3	33 (28)
	Inclusion strategies	3.07	3	37 (32)
	Assistive technology	3.07	3	21 (18)
	IEP development	3.07	3	29 (25)
Psychologists (13)				
	Restraint procedures	3.54	4	54 (7)
	FBA	3.54	4	61 (8)
	Positive & negative reinforcement strategies	3.54	4	54 (7)
	Intervention for problem behaviors	3.23	3	31 (4)
	Effective collaboration skills with parents and teachers	3.23	4	46 (6)
Paraeducators (65)				
	Effective collaboration skills with parents and teachers	3.43	4	51 (33)
	Intervention for problem behaviors	3.40	4	53 (34)
	IEP development	3.40	4	55 (36)
	Positive & negative reinforcement strategies	3.38	4	49 (32)
Support Professionals (4)				
	Inclusion strategies	3.75	4	75 (3)
	Intervention for problem behaviors	3.00	2	50 (2)
	Effective collaboration skills parents and teachers	3.00	3	25 (1)
	IEP development	3.00	3	25 (1)
	Transition services	3.00	3	25 (1)

Participants' Perception of Their FBA Skill Levels

Overall, participants rated their skill levels with FBA as low in the following areas: 1) hypothesis testing of the purpose of the problem behavior (M = 2.89), 2) both recording procedures for measuring problem behaviors and conducting ongoing assessment of changes in behavior due to intervention (M = 2.98 for both areas; see Table 13), and 3) developing intervention plans to decrease problem behavior and/or increase desired behaviors (M = 2.99). Figure 16 provides a chart graph representation of the mean scores for participants' skill level in FBA.

Table 13

Mean Scores for Participants' Skill Level in FBA (N = 168)

Variables	M	Mode
Interviewing caregivers regarding behavioral problems	3.05	4
Defining problem behaviors such that they can be observed and quantified	3.06	3
Recording procedures for measuring problem behaviors	2.98	3
Predicting problem behavior based on observations	3.01	3
Analyzing observational data (e.g. frequency, duration, and time sample) to determine purpose of problem behaviors	3.07	4
Developing intervention plans to decrease problem behavior and/or increase desired behaviors	2.99	3
Conducting ongoing assessment of changes in behavior due to intervention	2.98	3
Hypothesis testing of the purpose of problem behavior and its relationship to the environment	2.89	3

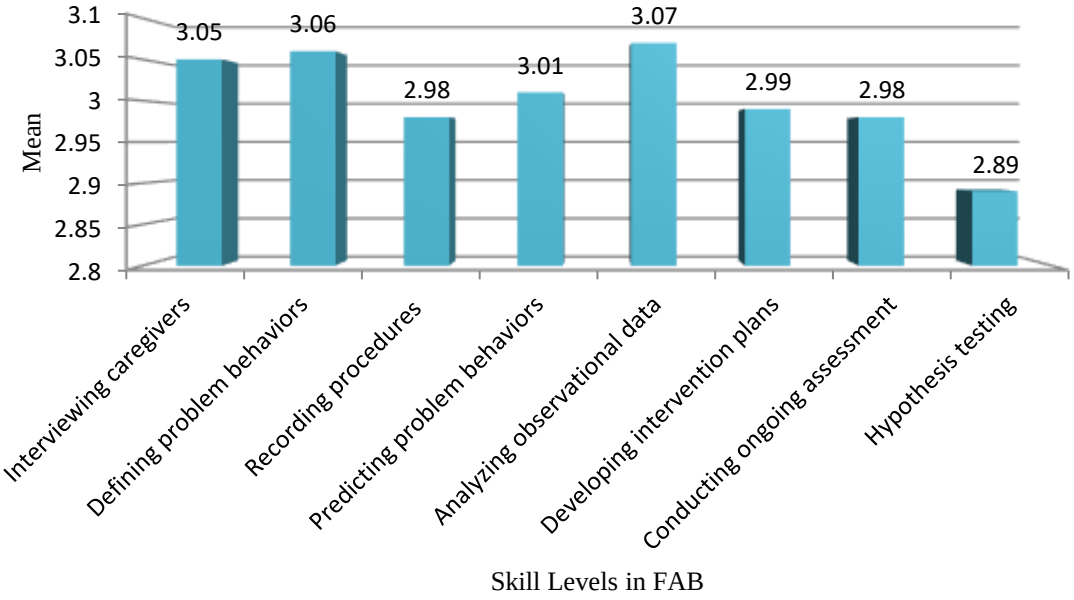

Figure 16. Mean Scores for Participants' Perceived Skill Level in FBA (N = 168)

When data was analyzed according to the participants' primary roles, differences were found among the four subgroups both in ranking and priority areas. Special educators (n = 86) indicated their skill level was low in only one area of hypothesis testing of the purpose of the problem behavior (M = 2.95), where 28% (n = 24) of special educators rated this area as "low" or "none" (see Table 14). In contrast, psychologists rated their skill levels as "high" or "moderate" with mean scores ranging from 3.54 to 3.85 for all areas of FBA (see Table 15). In fact, psychologists (n = 13) had the same ranking for recording procedures for measuring problem behaviors, developing intervention plans to decrease problem behavior and/or increase desired behaviors, and conducting ongoing assessment of changes in behavior due to intervention (M = 3.54). Figures 17, 18, 19, and 20 provide a chart graph representation of the mean scores for the four subgroups participants' skill level in FBA.

Table 14

Mean Scores for Overall Participants and Subgroups Skill Areas of FBA

Participants (168)	Skill areas rated low proficiency	Mean	Mode	Percent (%), Rate low or none (n)
Overall (168)				
	Hypothesis testing	2.89	3	30 (50)
	Recording procedures	2.98	3	26 (44)
	Conducting ongoing assessment	2.98	3	28 (47)
	Developing intervention plans	2.98	3	25 (42)
Special Educators (86)				
	Hypothesis testing	2.95	3	28 (24
Paraeducators (65)				
	Interviewing caregivers	2.63	3	43 (28)
	Recording procedures	2.63	3	39 (25)
	Hypothesis testing	2.66	3	39 (25)
	Developing intervention plans	2.69	3	39 (25)
	Predicting problem behavior	2.71	3	35 (23)
	Conducting ongoing assessment	2.72	3	37 (24)
	Analyzing observational data	2.75	3	39 (25)
	Defining problem behaviors	2.78	3	34 (22)
Support Professionals (4)				
	Analyzing observational data	2.00	2	75 (3)
	Predicting problem behavior	2.25	1	75 (3)
	Developing intervention plans	2.25	3	50 (2)
	Conducting ongoing assessment	2.25	1	50 (2)
	Recording procedures	2.50	1	50 (2)
	Hypothesis testing	2.50	3	25 (1)
	Defining problem behaviors	2.75	3	25 (1)

Table 15

Mean Scores for Psychologists Skill Areas of FBA

Psychologists skill areas rated low proficiency (13)	Mean	Mode	Percentage rated (%), low or none (n)
Interviewing caregivers	3.77	4	0% (0)
Defining problem behaviors	3.77	4	0% (0)
Recording procedures	3.54	4	0% (0)
Predicting problem behavior	3.62	4	0% (0)
Analyzing observational data	3.85	4	0% (0)
Conducting ongoing assessment	3.54	4	0% (0)
Developing intervention plans	3.54	4	0% (0)
Hypothesis testing	3.69	4	0% (0)

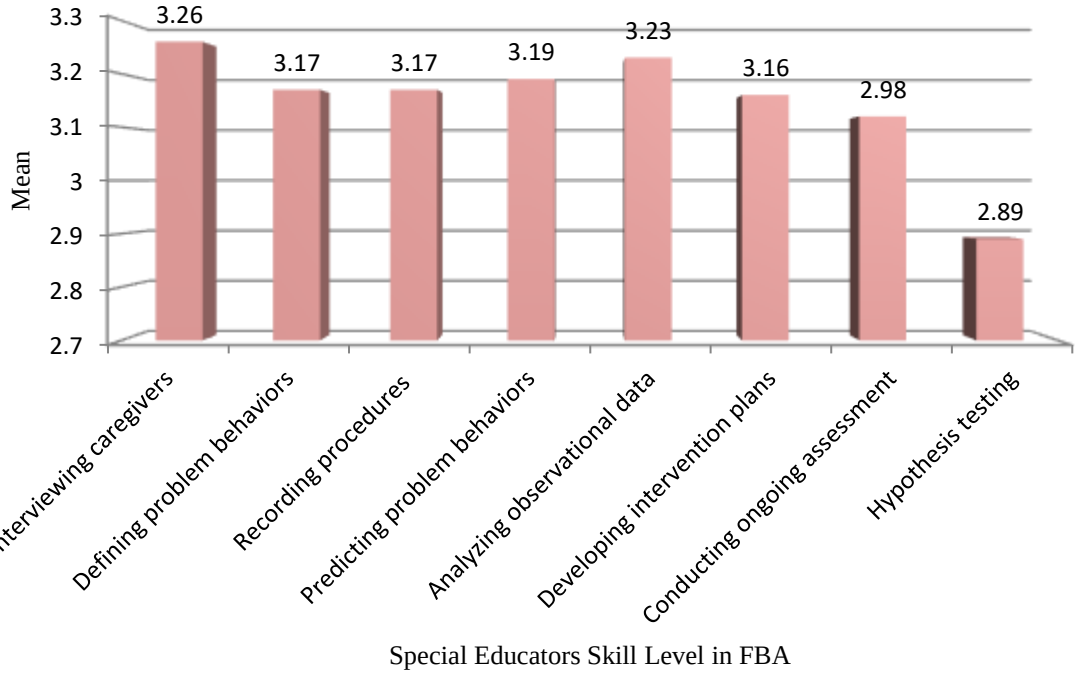

Figure 17. Mean Scores for Special Educators' Perceived Skill Level in FBA (N = 86)

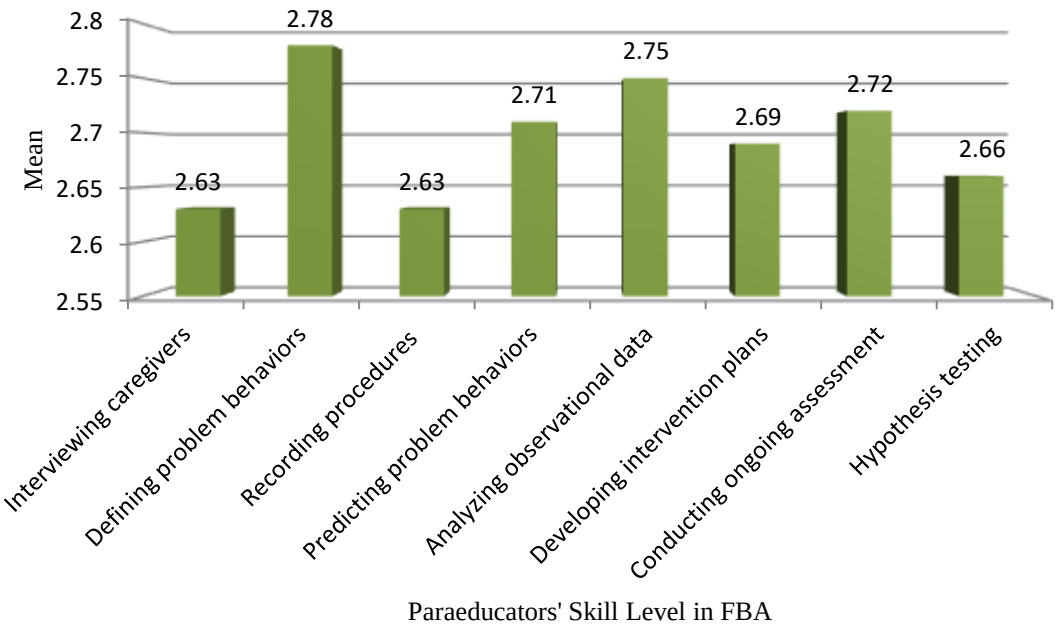

Figure 18. Mean Scores for Paraeducators' Perceived Skill Level in FBA (N = 65)

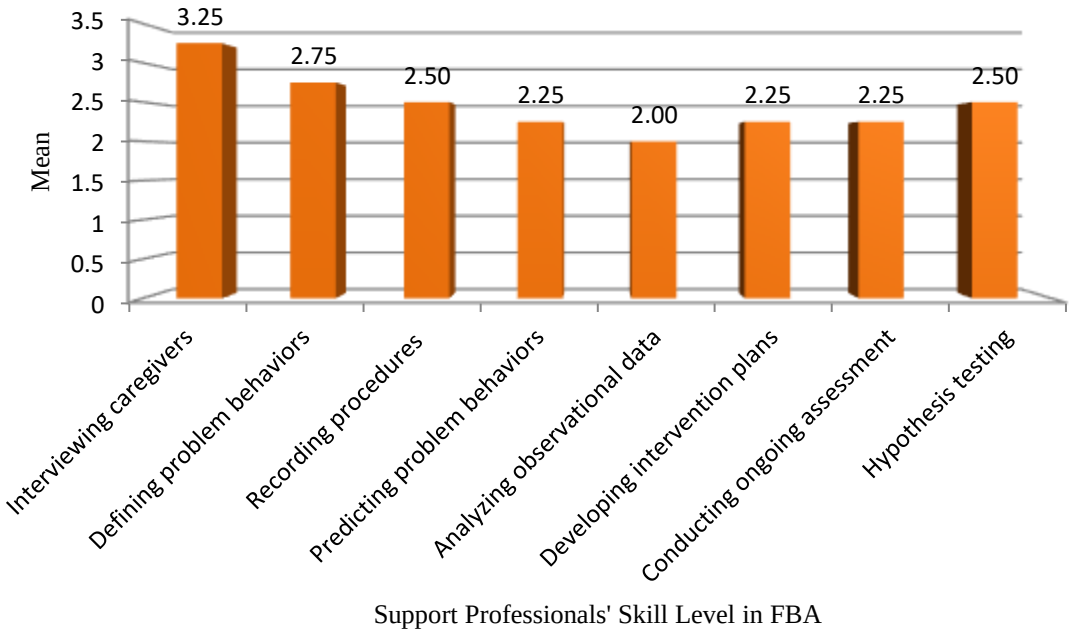

Figure 17. Mean Scores for Support Professionals' Perceived Skill Level in FBA (N = 4)

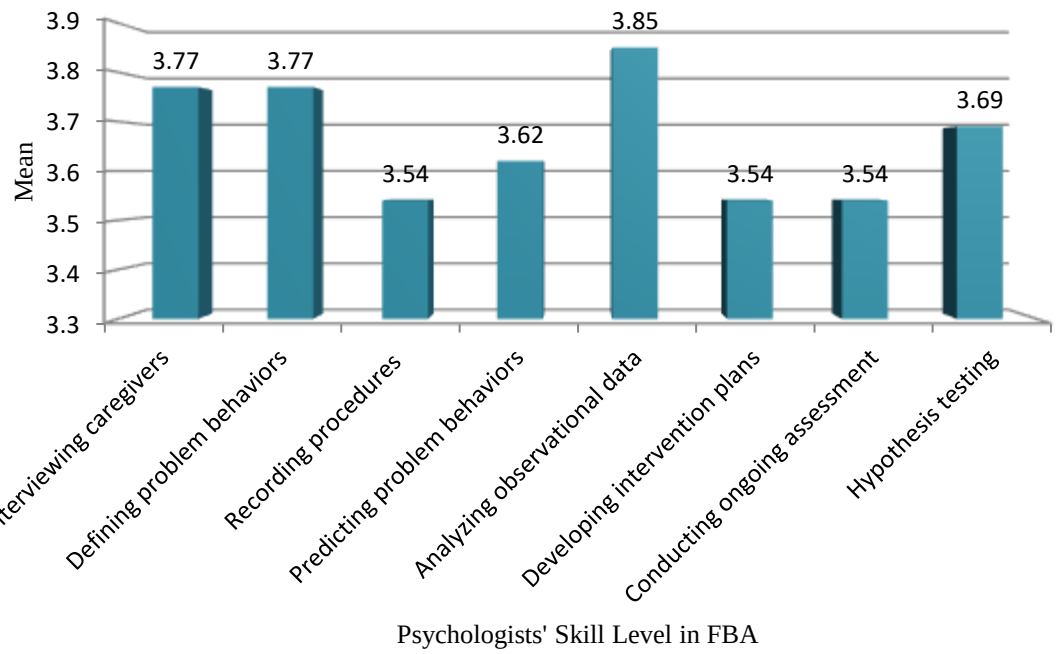

Figure 20. Mean Scores for Psychologists' Perceived Skill Level in FBA (N = 13)

In contrast to special educators and psychologists, paraeducators (n = 65) indicated their skills were low in all areas of FBA. Paraeducators indicated both interviewing caregivers regarding behavioral problems and recording procedures for measuring problem behaviors as the two lowest skill areas where the ranking and priority for these two areas were the same (M = 2.63). This is followed by hypothesis testing of the purpose of the problem behavior (M = 2.66) and developing intervention plans to decrease problem behavior and/or increase desired behaviors (M = 2.69). The analysis of data for the support professionals' subgroup indicated they were least skilled in all areas of FBA areas except for the area of interviewing caregivers regarding behavioral problems (M = 3.25). Support professionals perceived themselves as having the lowest skill level in the area analyzing observational data to determine purpose of problem

behaviors (M = 2.00), which was rated as “low” or “none” by 75% (n = 3) of support professionals. Followed by predicting problem behavior based on observations, developing intervention plans to decrease problem behavior and/or increase desired behaviors, and conducting ongoing assessment of changes in behavior due to intervention as having the same ranking and priority (M = 2.25).

Preferred Methods of Professional Development

Data analysis revealed the primary preferred method of professional development for participants was all-day workshop indicated by 39% (n = 66) of participants. Followed by series of brief workshops selected by 36% (n = 61) of participants, and university course as indicated by 21% (n = 36) of participants. Data was analyzed by subgroups for similarities and differences between the subgroups concerning their preferred methods of professional development and are presented in Table 15.

As seen in Table 16, the majority of special educators (n = 39, 45%), psychologists (n = 5, 39%), and paraeducators (n = 21, 32%) indicated a preference for all-day workshop as their primary preferred method of professional development. Whereas, 50% of the respondents (n = 2) from the support professionals’ subgroup indicated series of brief workshops was their preferred method of professional development. When analyzed for similarities between special educators and psychologists, participants in both subgroups indicated the preference for their preferred methods of professional development: 1) all day workshop, 2) series of brief workshops, and 3) books and other written materials. In fact, 20% of special educators (n = 17), 23% of psychologists (n = 3), and 75% of support professionals (n = 3) indicated books and other written materials as their third preferred method of professional development.

Lastly, only participants in the support professionals' subgroup selected cooperative work group at center site as a preferred method of professional development indicated by 75% (n = 3) of support professionals.

Table 16

Mean Scores for Overall Participants and Subgroups Skill Areas of FBA

Participants (168)	Variables	Frequency (n)	Percentage (%)
Overall (168)			
	All day workshop	66	39
	Series of brief (e.g. 2 hours) workshops	61	36
	University course	36	21
Special Educators (86)			
	All day workshop	39	45
	Series of brief (e.g. 2 hours) workshops	31	36
	Books and other written materials	17	20
Psychologists (13)			
	All day workshop	5	39
	Series of brief (e.g. 2 hours) workshops	4	31
	Books and other written materials	3	23
Paraeducators (65)			
	All day workshop	21	32
	Series of brief (e.g. 2 hours) workshops	25	39
	University course	19	30
Support Professionals (4)			
	Series of brief (e.g. 2 hours) workshops	2	50
	Cooperative work group at center site	3	75
	Books and other written materials	3	75

Areas of Training for Participants in Shafallah Center

The last section of the Special Education In-Service Needs Assessment survey consisted of open-ended question where participants were asked to identify the highest need areas of professional development for staff working with students with disabilities in Shafallah Center. Of the total participants, only 41% (n = 69) provided responses to this section. The responses obtained were categorized into seven areas for professional development needs at Shafallah Center as perceived by participants. Overall, the most commonly cited area of training needs reported by 23% (n = 39) of participants was training in behavioral management skills and FBA. Specific topics identified by participants in this area included: techniques to deal with sudden/crisis problem behaviors of children with problem behaviors, techniques to deal with different types of challenging behaviors, evaluation and assessment of problem behaviors, and negative reinforcement. The second most commonly identified area of need was professional development in effective teaching strategies for children with multiple disabilities cited by 6% (n = 10) of participants. Followed by assistive technology as indicated by 4% (n = 7) of participants as the third area of training needs. Other areas of professional development needs identified by participants included: autism interventions (n = 6), collaboration and teamwork (n = 5), teaching strategies for academic and vocational skills (n = 1), and use of art therapy for children with problem behaviors (n = 1). Figure 21 provides a chart graph representation of areas in need of professional development for personnel working in Shafallah Center.

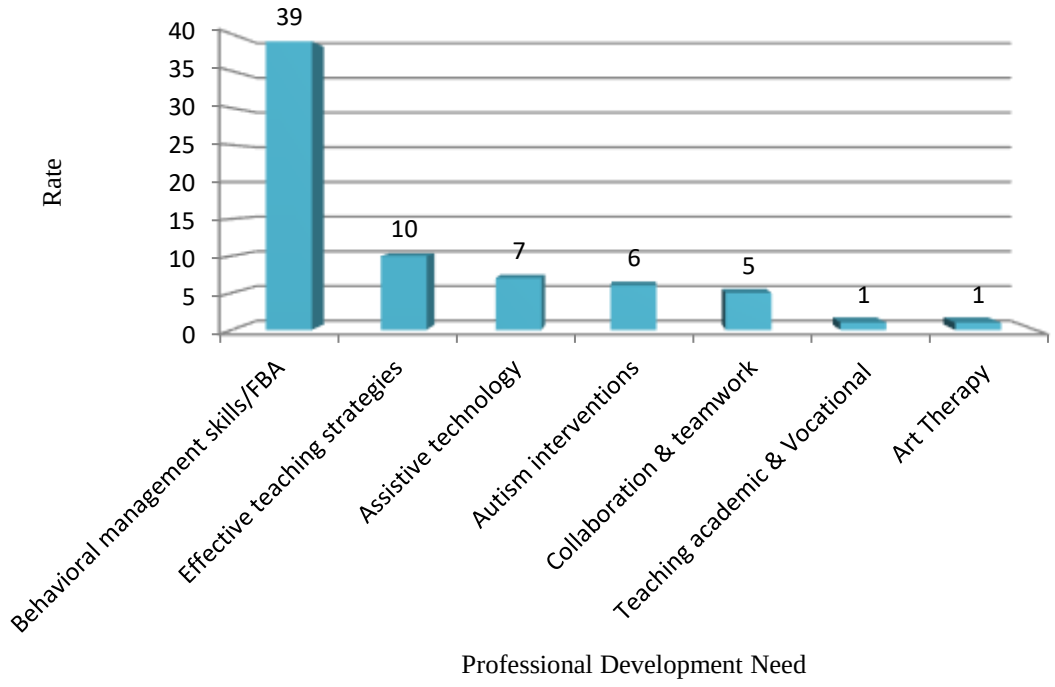

Figure 18. Areas Identified as a Need for Professional Development for Shafallah Center Personnel

Data analysis for the four subgroups showed approximately similar pattern of professional development needs that was consistent with the overall participants' responses (see Table 17). The highest need area of professional development for personnel working in Shafallah Center identified by the subgroups was behavioral management skills indicated by special educators (n = 19), psychologists (n = 6), paraeducators (n = 13), and support professionals (n =1). The second identified area of need was effective teaching strategies for children with multiple disabilities cited by 7 special educators, one psychologist, and 3 paraeducators. For the third area of training needs, special educators (n = 6) indicated assistive technology whereas Psychologists (n = 1) and paraeducators (n = 1) indicated collaboration and teamwork as a priority training need for personnel working in their center.

Table 17

Areas in Need of Professional Development for Shafallah Center Personnel According to Subgroups

Areas	SPED (n=86)	Psych (n=13)	Para (n=65)	Support (n=4)
Behavior management skills	19	6	13	1
Effective teaching strategies	7	1	3	
Assistive technology	6			
Collaboration/Teamwork	3	1	1	
Autism interventions	6			
Academic and vocational skills	1			
Art therapy for children with problem behaviors	1			

Note. SPED. = Special Educators, Psych. = Psychologists, Para. = Paraeducators and Support. = Support Professionals.

Positive Behavior Supports Implementation Survey

The Positive Behavior Supports Implementation Survey was used to assess participants' perception of the challenges and difficulties in implementation of PBS. The first question of the survey consisted of 24 items organized into four categories: 1) specific skills; 2) techniques; 3) shared values; and 4) other areas. Participants were asked to rate the degree of difficulty in implementation on a 7-point likert scale where 1 indicating the least difficult and 7 indicating the most difficult.

Data analysis involved calculation of the mean difficulty ratings for each item to identify the most difficult item in implementation reported by participants across all 24 items. Next, the means for each category of the survey were calculated by averaging

responses to the items within that category. Afterword, the most and least difficult category was identified as reported by participants.

Difficulty Ratings across Categories of PBS for Participants

Of all the items, formulating hypothesis using functional assessment data (M = 5.27) was reported as being most difficult by overall participants, whereas the use of reinforcement to increase desired behaviors (M = 2.51) was the least difficult. Concerning the "specific skills", the skills that were reported as most difficult were formulating hypothesis using functional assessment data (M = 5.27), data interpretation (trend analysis) (M = 4.96), and using graphs to present data (M = 4.87). The majority of participants did not have much difficulty understanding the basic fundamental principles of PBS (M = 2.57) and collecting and recording data (M = 2.68). The mean difficulty ratings across items in the Specific Skills section are displayed in Table 18.

Table 18

Participant Rating of Difficulty when Imlementing FBA

Items	M
Understanding the basic fundamental principles of PBS as defined in the literature	2.57
Conducting functional behavioral assessments	3.24
Collecting and recording data	2.68
Using graphs to present data	4.87
Data interpretation (trend analysis)	4.96
Formulating hypothesis using functional assessment data	5.27

With regard to "techniques", participants indicated designing of behavior support plans (M = 4.42) and evaluating behavior interventions (M = 4.41) were the most difficult techniques. In contrast, the use of reinforcement to increase desired behaviors (M = 2.51) and the use of observations as a data collection procedure (M = 2.76) were the least difficult techniques as reported by overall participants (see Table 19). Of all the items in the "shared values" list, collaborating with family as partners in the design and delivery of PBS (M = 4.86) and using team based approach in conducting FBA (M = 4.85) were the most difficult for the majority of participants (see Table 20). Whereas, most participants found that getting support from administration (M = 2.72) was the least difficult. In terms of "other areas", time constrains were reported as being the most difficult (M = 4.36) as reported by the majority of participants. Participants also indicated large class sizes (M = 4.27) and the availability of resources (M = 4.27) as being difficult (see Table 21).

Table 19

Participant Mean of Difficulty Implementing PBS Techniques

Items	M
Use of reinforcement to increase desired behavior	2.51
Use of curriculum modifications to prevent challenging behavior	2.90
Using instructional antecedent management as a means of preventing challenging behavior	3.01
Teaching of alternative/replacement behaviors	2.84
Use of observations as a data collection procedure	2.76
Designing of behavior support plans	4.42
Implementing behavior interventions	3.10
Evaluating behavior interventions	4.41

Table 20

Overall Mean Item Difficulty for Shared Values

Items	M
Using team based approach in conducting functional behavioral assessments and designing behavior support plans	4.85
Getting support from administration	2.72
Collaborating with family as partners in the design and delivery of PBS	4.86
Raising awareness of PBS in the center	3.78

Table 21

Overall Mean Item Difficulty for Other Areas

Items	M
Understanding technical terminology in PBS literature	3.12
Large class sizes	4.27
Time constraints	4.36
Availability of resources to teachers	4.27

When data was analyzed for the four categories, “shared values” (M = 4.05) and “other areas” (M = 4.01) were the most difficult for participants, whereas “techniques” was the least difficult (M = 3.24). Table 22 displays the ranking of PBS skill areas according to the level of difficulty.

Table *22*

Overall Order of Skill Areas According to Level of Difficulty

Items	M
Shared values	4.05
Other areas	4.01
Specific skills	3.93
Techniques	3.24

Difficulty Ratings across Categories for Subgroups

When data were analyzed according to the participants' primary roles, differences were found among the four subgroups in all four categories. With regard to "specific skills", special educators (n = 86) indicated using graphs to present data (M = 4.92), formulating hypothesis using functional assessment data (M = 4.87), and data interpretation (M = 4.06) were the most difficult areas (see Table 23). Similarly, paraeducators indicated the same areas of formulating hypothesis using functional assessment data as being most difficult (M = 5.12), data interpretation (M = 4.95), and using graphs to present data (M = 4.20) as the most difficult of the "specific skills" list. In contrast, almost all skills listed in the "specific skills" were difficult for support professionals with the exception of understanding the basic fundamental principles of PBS as defined in the literature (M = 2.50). Whereas, psychologists did not report having difficulty with all the items listed in the "specific skills". In fact, the least difficult skills reported by psychologists were in the area of understanding the basic fundamental principles of PBS (M = 1.77) and collecting and recording data (M = 1.77).

Table 23

Subgroups' Mean Item Difficulty for Specific Skills

Variables	SPED. M (n=86)	Psych. M (n=13)	Para. M (n=65)	Support. M (n=4)
Item 1	2.36	1.77	3.02	2.50
Item 2	3.02	1.85	3.72	4.73
Item 3	2.15	1.77	3.45	4.50
Item 4	4.92	1.62	4.20	4.75
Item 5	4.06	2.23	4.95	4.50
Item 6	4.87	2.46	5.12	4.25

Note. SPED. = Special Educators, Psych. = Psychologists, Para. = Paraeducators and Support. = Support Professionals.

Concerning "techniques", both special educators and psychologists did not have much difficulty with the items in the "techniques" list (see Table 24). In fact, the least difficult item reported by special educators was in the area of use of reinforcement to increase desired behavior (M = 2.28). Whereas, psychologist indicated the use of observations as a data collection procedure (M = 1.62) and the use of reinforcement to increase desired behavior (M = 1.92) as being the least difficult items. Paraeducators indicated evaluating behavior interventions (M = 4.95) and designing of behavior support plans (M = 4.86) were the most difficult items in the "techniques" list. Likewise, support professionals reported having difficulty with the same items of evaluating behavior interventions (M = 4.00) and designing of behavior support plans (M = 4.00). In addition to having the most difficulty with implementing behavior interventions (M = 4.50), the least difficult item reported by paraeducators (M = 3.15) and support professionals (M = 2.50) was in the use of reinforcement to increase desired behavior.

Table 24

Subgroups' Mean Item Difficulty for Techniques

Variables	SPED. M (n=86)	Psych. M (n=13)	Para. M (n=65)	Support. M (n=4)
Item 1	2.28	1.92	3.15	2.50
Item 2	2.52	2.08	3.87	2.75
Item 3	2.52	2.00	3.85	3.00
Item 4	2.56	1.92	3.87	3.25
Item 5	2.35	1.62	3.49	3.25
Item 6	3.28	1.85	4.86	4.00
Item 7	2.67	2.08	3.97	4.50
Item 8	3.08	2.31	4.95	4.00

Note. SPED. = Special Educators, Psych. = Psychologists, Para. = Paraeducators and Support. = Support Professionals.

All four subgroups reported difficulty with some of the items in the "shared values" (see Table 25). Both special educators (M = 4.14), paraeducators (M = 4.62), and support professionals (M = 4.00) reported collaborating with family as partners in the design and delivery of PBS as the most difficult item. Whereas, the most difficult item for psychologists was raising awareness of PBS in the center (M = 4.08). In addition, both special educators (M = 4.08) and paraeducators (M = 4.15) reported difficulty with using team based approach in conducting functional behavioral assessments and designing behavior support plans. Paraeducators also indicated difficulty with getting support from administration (M = 4.00). In contrast, the least difficult item from the "shared values" list reported by psychologist was using team based approach in

conducting functional behavioral assessments and designing behavior support plans (M = 2.15).

Table 25

Subgroups' Mean Item Difficulty for Shared Values

Variables	SPED. M (n=86)	Psych. M (n=13)	Para. M (n=65)	Support. M (n=4)
Item 1	4.08	2.15	4.15	2.75
Item 2	3.94	2.85	4.00	3.00
Item 3	4.14	3.38	4.62	4.00
Item 4	3.94	4.08	3.66	3.25

Note. SPED. = Special Educators, Psych. = Psychologists, Para. = Paraeducators and Support. = Support Professionals.

Special educators, paraeducators, and support professionals reported difficulty with three items of the "other areas" lists: large class sizes, time constraints, and availability of resources to teachers (see Table 26). The most difficult area reported by special educators was large class sizes (M = 4.84), followed by time constraints (M = 4.06), and availability of resources to teachers (M = 4.01). In contrast, paraeducators reported time constraints (M = 4.82) as the most difficult of all items listed in the "other areas", followed by availability of resources to teachers (M = 4.48), and large class sizes (M = 4.20). For support professionals the most difficult item reported was both large class sizes (M = 4.25) and availability of resources to teachers (M = 4.25), followed by time constraints (M = 4.00). Psychologists did not have much difficulty with any of the items. In fact, the least difficult item reported by psychologists (M = 2.54) was in the area

of understanding technical terminology in PBS literature. The same item was also reported as the least difficult by special educators (M = 2.72) and support professionals (M = 2.50).

Table 26

Subgroups' Mean Item Difficulty for Other Areas

Variables	SPED. M (n=86)	Psych. M (n=13)	Para. M (n=65)	Support. M (n=4)
Item 1	2.72	2.54	3.80	2.50
Item 2	4.84	3.54	4.20	4.25
Item 3	4.06	3.31	4.82	4.50
Item 4	4.01	3.92	4.48	4.25

Note. SPED. = Special Educators, Psych. = Psychologists, Para. = Paraeducators and Support. = Support Professionals.

Data analysis for the subgroups across the four categories revealed the highest difficulty was for the category of "other areas" reported by paraeducators (M = 4.31). Followed by "specific skills" category reported by support professionals (M = 4.20) and "shared values" category reported by paraeducators (M = 4.11). Compared to the other subgroups, paraeducators reported difficulty with all four categories: 1) "other areas" (M = 4.31); 2) "shared values" (M = 4.11); 3) "specific skills" (M = 4.07); and 4) "techniques" (M = 4.00). In contrast, psychologists did not report difficulty with any of the four categories. In fact, psychologists reported the least difficulty compared to the other subgroups in all four categories: 1) "specific skills" (M = 1.95); 2) "techniques" (M = 1.97); 3) "shared values" (M = 3.12); and 4) "other areas" (M = 3.31). Special educators reported the least difficulty (M = 2.66) was for "techniques". Table 27 displays the average mean of PBS skill areas according to the level of difficulty for subgroups.

Figure 22 provide a chart graph representation of PBS skill areas according to the level of difficulty for subgroups.

Table 27

Average Mean for FBA Skill Areas According to Level of Difficulty for Subgroups

Variables	SPED. M (n=86)	Psych. M (n=13)	Para. M (n=65)	Support. M (n=4)
Specific skills	3.56	1.95	4.07	4.20
Techniques	2.66	1.97	4.00	3.41
Shared values	4.01	3.12	4.11	3.25
Other areas	3.91	3.31	4.31	3.88

Note. SPED. = Special Educators, Psych. = Psychologists, Para. = Paraeducators and Support. = Support Professionals.

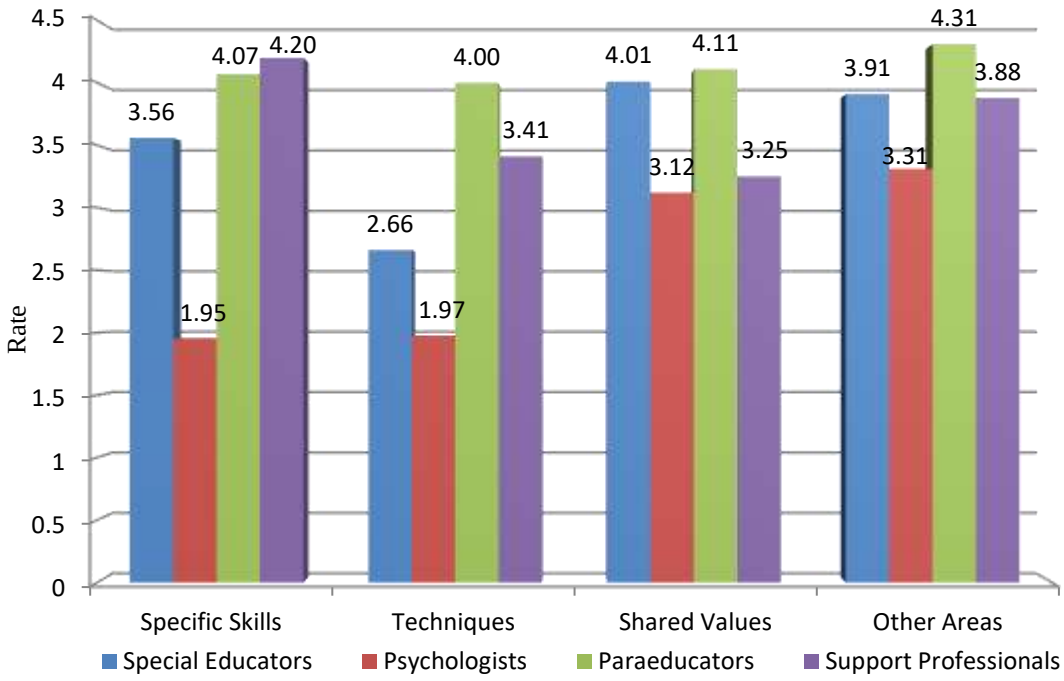

Figure 19. Skill Areas According to Level of Difficulty for Subgroups

FBA Data Collection Methods

The second question of the Positive Behavior Supports Implementation survey asked participants to check which data collection methods they used in the implementation of PBS in their classroom/center (structured interviews, scatter plot, observational recording, frequency count, and using a variety of FBA data collection methods). The most commonly used FBA data collection methods were observational recording and frequency count as reported by 87% (n = 146) of participants. Followed by structured interviews as reported by 70% (n = 118), and using a variety of FBA data collection methods indicated by 69% (n = 116) of participants. The least used FBA data collection method reported by 47% (n = 28) was scatter plot. Figure 23 provides a visual presentation of the percentages of participants according to FBA data collection methods.

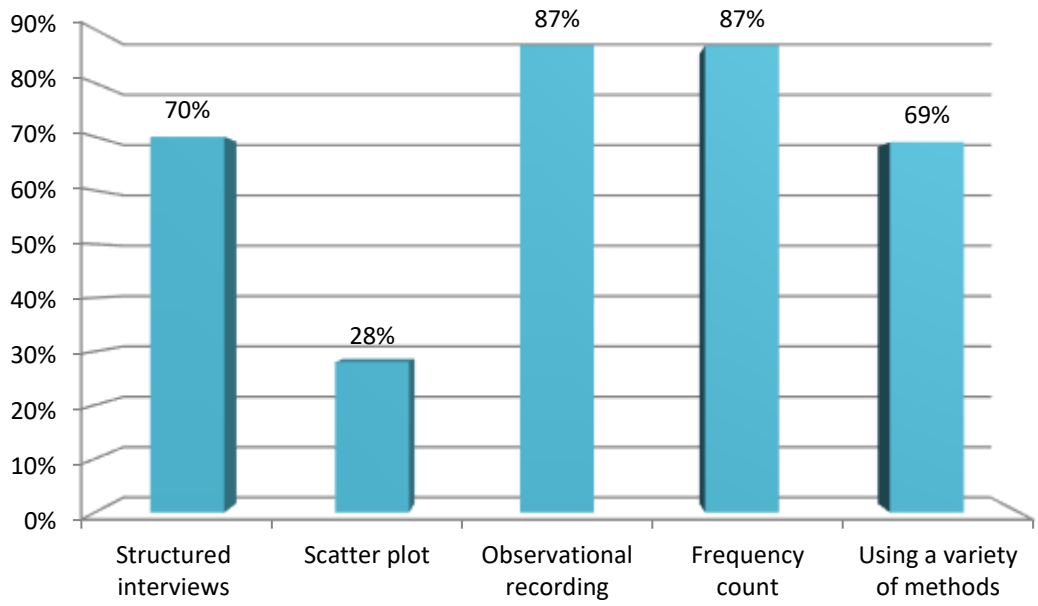

Figure 20. FBA Data Collection Methods

PBS Implementation Challenges and Technical Assistance Needs

The last three questions in the survey (questions 3-5) were open ended questions in which participants were asked to indicate the problems they encountered during PBS interventions process, the areas in which they needed technical assistance, and things they might do in a different way if they were to redo the implementation of PBS in their classroom/center. For question 3, which asked participants to specify problems they encountered during the PBS implementation, only 38% (n = 63) of participants completed this question. The top problems identified by participants who responded to this question were: a) lack of family collaboration in implementation of PBS (n = 13); b) inferences from other professionals (team members, other teachers, supervisor, and students in the classroom) as well as interference from others unqualified in the field (n = 10); c) lack of clear procedures for PBS at the center (n = 8); d) difficulty in generalizing desired behaviors outside the classroom environment (n = 7); e) lack of adequate training and practical experience in FBA (n = 7); f) time constraints (n = 6); g) lack of awareness about PBS among professional staff (n = 5); h) lack of consistency among staff related to BIPs being implemented by different professionals in different places (n = 3); i) lack of support from administration (n = 2); and j) large classroom size which affect reliability of observations and recording (n = 2). Table 28 displays the challenges to implementation of PBS as reported by participants.

Table 28

Challenges to PBS Implementation

Items	Frequency (n)
Lack of family collaboration in implementation of PBS	13
Inferences from others and staff unqualified in the field	10
Lack of clear procedures for PBS	8
Difficulty in generalization of desired behaviors outside the classroom environment	7
Lack of adequate training and practical experience in FBA	7
Time constraints	6
Lack of awareness about PBS among professional staff	5
Lack of consistency among staff related to BIPs implementation	3
Lack of support from administration	2
Large classroom size affects reliability of observations and recording	2

For question 4, which asked participants to specify the areas in which they needed technical assistance, only 29% (n = 48) of participants completed this question. Participants reported they required technical assistance in the following areas: a) FBA, specifically data collection methods (n = 15); b) assistive technology, specifically augmentative and alternative communication (n = 13); c) PBS techniques and implementation procedures (n = 8); d) BIPs monitoring and implementation (n = 8); e) teaching social and academic skills for children with problem behaviors (n = 2); and f) resources in Arabic for teaching children with problem behaviors (social stories) (n = 2). Table 29 displays areas of technical assistance needs as reported by participants.

Table 29

Areas of Technical Assistance Needs

Items	Frequency (n)
FBA (data collection)	15
Assistive technology (Augmentative and alternative communication)	13
PBS techniques and implementation procedures	8
BIPs monitoring and implementation	8
Teaching social and academic skills	2
Resources in Arabic for teaching children with problem behaviors (social stories)	2

For the last question, which asked participants to state the things they would do differently if they were to redo the PBS implementation in Shafallah Center, only 29% (n = 48) of participants completed this question. Following are the areas reported by participants: a) implement center-wide training on PBS (n = 12); b) provision of positive communication and collaboration with families in implementation of PBS and generalization of desired behaviors (n = 8); c) implementation of PBS programs on a continuous basis (n = 8); d) reinforce accurate implementation of BIPs and reinforcement schedules (n = 7); e) establishing a behavior intervention team within the center (n = 5); f) adapting the environment to support positive behavior (n = 3); g) support the team in implementing FBA (n = 3); h) provide full-time one-on-one teachers in the classroom for children with severe problem behaviors (n = 2); and i) having confidence in the special educator abilities to implement PBS programs (n = 2). Table 30 displays things to be done differently if participants were to redo PBS at Shafallah Center.

Table 30

Things to be Done Differently When Redoing PBS According to Participants

Characteristic	Frequency (n)
Implement center-wide training on PBS	12
Positive communication & collaboration with families in implementation of PBS	8
Implementation of PBS programs on a continuous basis	8
Reinforce accurate implementation of BIPs	7
Establishing a behavior intervention team within the center	5
Adapting the environment to support positive behavior	3
Support the team in implementing FBA	3
One-on-one teachers in the classroom for children with severe problem behaviors	2
Having confidence in the special educator abilities to implement PBS programs	2

FBAs/BIPs Analysis Rating Scale

An important aspect of this study was to describe the degree to which FBAs and positive behavior interventions are being implemented at Shafallah Center. For that critical analysis of FBA and BIP documents was utilized to determine the technical adequacy using the FBAs/BIPs Analysis Rating Scale. The rating scale allowed for two types of analyses: a) absence or presence of each key variable, and b) the quality of each variable, where each variable was rated using a 5-point Likert rating scale (0 = missing, 1 = poor, 2 = fair, 3 = average, 4 = good, and 5 = excellent).

A random sample of ten (10) students with problem behaviors who had individual FBA/BIPs was selected. All of the students were of Qatari nationality with eight (80%) were males and two (20%) were females. Of the total ten students, one (10%) student was enrolled in the Early Childhood Preschool Program; three (30%) students were from the School-age Program for Mild/Moderate Disability; one (10%) student was from the School-age Program for Severe/Profound Disability; three (30%) students were from the School-age Program for ASD; and two (20%) students were from the Vocational Rehabilitation Program. Regarding age distribution of the students, the majority (n = 5; 50%) were in the 13-18 years old category, followed by three students (n = 3; 30%) were in the 6-12 years old category, and only two students (n = 2; 20%) were in the 19-24 years old category. Concerning the type of disability of students, the majority of students (n = 3; 30%) had ASD, followed by two students (n = 2; 20%) with Cerebral Palsy, two students (n = 2; 20%) with Mild/Mod intellectual disability, two students (n = 2; 20%) with Severe/Profound intellectual disability, and one student (n = 1; 10%) had Down syndrome. Table 31 provides a description of the students according to gender, educational program, age groups, and type of disability.

Table 31

Descriptive Statistics of Students Sample (N = 10)

Characteristics	Frequency (n)	Percentage (%)
Gender		
Male	8	80
Female	2	20
Educational Programs		
Early Childhood Preschool	1	10
School-age for Mild/Mod	3	30
School-age for Severe/Profound	1	10
School-age for ASD	3	30
Vocational Rehabilitation	2	20
Age		
6-12 years old	3	30
13-18 years old	5	50
School-age for Severe/Profound	2	20
Type of Disability		
ASD	3	30
Cerebral Palsy	2	20
Mild/Mod Intellectual Disability	2	20
Severe/Profound Intellectual Disability	1	10
Down syndrome	2	20

FBA/BIP Team Composition

Analysis of the composition of the team accountable for the development of the FBA/BIP revealed a single individual, more specifically the psychologists, developed all FBAs/BIPs. Examination of team membership revealed that parents and special educators were frequently involved as part of the structured interview for the FBA data collection. Parents were involved in four FBA/BIP (n = 4; 40%), while special educators were involved in three FBA/BIP (n = 3; 30%). In contrast, both support professionals (occupational therapist) and paraeducators were involved in only one FBA/BIP (n = 1; 10%). The student was not involved in any of the analyzed FBAs/BIPs. Figure 24 provides a visual presentation of the team membership involved in the development of the FBA/BIP.

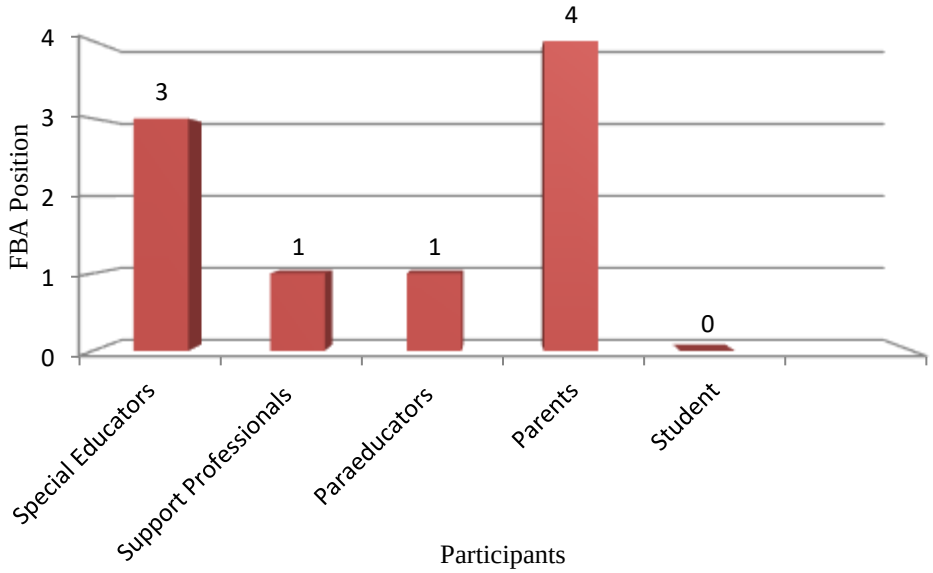

Figure 21. Participants by Position Involved in FBA Structured Interview Data Collection

Adequacy of the Critical Components of the Functional Assessment of Behavior

FBAs were analyzed for the presence of the critical components as well as the extent to which those critical components were addressed. Level of adequacy was rated according to a 5-point Lickert scale (1 = poor, 2 = fair, 3 = average, 4 = good, and 5 = excellent). Table 32 provides a summary of the findings on the presence and quality of critical FBA components.

Table 32

Summary of the Presence and Quality of Critical FBA Components

Variables	Quality Rating					
	Missing	Poor – 1	Fair – 2	Adequate – 3	Good – 4	Excellent - 5
Clarity of defined target behavior			2	4	4	
Verification of hypothesized function	3			2	5	
Triangulation of the data					5	
Functional analysis						

Component 1: Identification and Definition of the Target Behavior

Analysis revealed target behaviors were specified in all of the selected FBAs with variation in terms of the quality of operational definition. Of the total selected FBAs, only four (n = 4; 40%) included a good definition of the target behavior (rating of 4). Another

four FBAs (n = 4; 40%) had an adequate definition of the target behavior (rating of 3), while two FBAs (n = 2; 20%) included target behaviors that were less than adequate (rating of 2 or below). The main problem associated with the quality of the target behavior was the grouping of multiple problem behaviors under one category and identification of a shared function for those diverse behaviors. For example, in one FBA/BIP the target behavior for twelve years old male student with ASD was indicated as several target behaviors (tantrum behavior, shouting, crying, non-compliance, refusing to follow directions, physical aggression towards the teachers and peers, hitting, kicking, destructive behavior, damaging property, and intentionally breaking things). However, FBA data collection conducted under the assumption that these behaviors constitute features of a single behavior, which in turn affected accurate identification of hypothesized function of target behavior. In another FBA/BIP, the target behavior for thirteen years old female student with CP was indicated as one single behavior (disruptive outbursts, shouting, crying, physically attacking teachers and peers, hitting, kicking, destructive behavior, breaking classroom equipment, and intentionally throwing objects). The analyzed FBA discussed these various behaviors as one behavior and data was collected under that presumption.

Of the total FBAs/BIPs, only four of the FBAs (n = 4; 40%) identified a single target behavior: a) biting, b) getting out of chair, c) self-injurious behavior including biting hand and thumb sucking, and d) fear of cartoon characters. The majority of FBAs (n = 6; 60%) identified more than one target behavior. However, only one of those FBAs collected a separate data collection for those target behaviors. That is, the FBAs were not conducted under the presupposition the behaviors were features of a single behavior nor

the behaviors served the same function for the student. The assessments were kept separate for those behaviors. In that FBA, two target behaviors were identified for a fifteen years old student with mild/moderate intellectual disability: hitting peers and running outside the classroom. Two separate FBA data collection was completed for each of the behavior until the data indicated the behaviors served the same function for the student (escape the task and sensory stimulation). Lastly, the majority of the FBAs (n = 6; 60%) provided information on the frequency and seriousness of the target behavior.

Component 2: Verification of the Hypothesized Function of the Target Behavior

Of the total analyzed FBAs, only half of the FBAs (n = 5; 50%) included verification of the hypothesized function prior to BIP development. The remaining five FBAs either failed to verify the proposed hypothesis prior to BIP development (n = 3; 30%) or did not specifically stated verification of the proposed hypothesis but included information that suggested there was an attempt to triangulate the data to verify the proposed hypothesis (n = 2; 20%). For example, in one FBA/BIP conducted for a seven years old female student with moderate intellectual disability the target behaviors were indicated as self-injurious behavior of head-banging and throwing items while crying. FBA data collection included direct observation of the student behavior in different settings, analysis of antecedent and consequence of behavior, interviews with the special education teacher and the student's mother, and Functional Assessment Screening Tool. The proposed hypothesis of the function of target behaviors was it was serving to attain wanted objects and to escape task. Though the FBA/BIP did not specifically state verification of the proposed hypothesis, necessary information was provided to identify

three independent sources of data that provided a common explanation for the occurrence of the target behavior.

Triangulation of data was the main process utilized in the five FBAs/BIPs to verify the hypothesized function of target behavior. None of the analyzed FBAs utilized the process of functional analysis for verification of the proposed hypothesis. The three main data sources utilized to verify the proposed hypothesis included: a) interviews with individuals who have significant interactions with the student (special education teachers, parents, and/or related services therapists); b) direct observation of the student's target behavior including frequency counts, scatterplots, and anecdotal recording such as Antecedent-Behavior-Consequence forms (A-B-C forms); and c) Functional Assessment Screening Tool (FAST). For example, in one FBA conducted for a nine years old student with ASD the target behavior was identified as frequently getting out of his seat in the classroom. Data were collected from three independent data sources including: direct observation of the student in the classroom using the A-B-C form, frequency counts and scatter plot of target behavior, interviews with the classroom special education teacher and the teacher's aids, and the FAST. Triangulation was used to verify the underlying function of the target behaviors, which involved exploration of the collected data from these independent data sources that suggested a common explanation for the occurrence of the target behavior was seeking attention and escaping the task.

Component 3: Identification of Context Variables Impacting the Target Behavior

Of the ten FBAs/BIPs analyzed, the majority (n = 8, 80%) explicitly identified context variables that influenced the target behavior as precursors or consequences. Only two FBAs/BIPs (n =2, 25%) failed to specify the context behaviors. Of the eight FBAs/BIPs, setting variables were identified in four of the FBAs/BIPs (n = 4, 50%). Examples of identified setting variables were the classroom, speech therapist treatment room, physical education gym, cafeteria, library, and the multi-sensory room. The most identified curricular variable (n =4, 50%) was specific task related to skill training. Teacher behaviors were identified in only two FBAs/BIPs (n =2, 25%) and it included either attention or harsh verbal reprimand. Peer behavior (mainly peer attention) was identified in only one FBA. Lastly, other variables included the student's medical condition, the nature of the disability, and medications were indicated as probable influences on target behavior in four of the analyzed FBAs/BIPs (n = 4, 50%). Table 33 displays the number of FBA according to type identified context variables associated with the target behavior.

Table 33

Number of FBAs According to Context Variables Associated with Target Behaviors (N =8)

Variables	Frequency (n)	Percent (%)
Setting	4	50
Curricular	4	50
Teacher	2	25
Peer	1	12
Other	4	50

Component 4: Type of Data Collected

The ten FBAs/BIPs were analyzed for the types of data collected thru the FBA process. Table 34 presents the number and percentages of FBAs according to type of data utilized to identify the function of target behavior.

Table 34

Type/ Source of Data Collected to Identify the Function of the Behavior (N =10)

Type of Data	Frequency (n)	Percent (%)
	Indirect Data Collection	
Student records	2	20
Interviews	7	70
Rating scales or checklists	9	90
Permanent products		
	Direct Data Collection	
Non-systematic data collection	3	30
Systematic data collection	8	80
Direct observation data on teacher or peer behavior	1	10
Direct observation data across multiple settings	4	40
Direct observation data across multiple teachers/Adults/Peer groups	3	30

Indirect data collection methods was reported by the majority of the FBAs (n = 9, 90%). Indirect data collection methods included the use of semi-structured interviews, examination of student records, and rating scales or checklists. The most utilized indirect

data collection methods were the use of rating scales/checklists (n = 9, 90%) and interviews (n = 7, 70%). The most commonly reported indirect data collection method was the use of checklists and rating scales (n = 9, 90%). The use of Functional Analysis Screening Tool (FAST) was indicated in the majority of FBAs as the most frequently utilized measure. Other measures included the Motivation Assessment Scale (MAS), Teacher Report Form (TRF), and Conners' Teacher Rating Scales–Revised: Long (CTRS–R:L). Review of the student's records was reported in only two FBAs. With regard to interviews, in half of the analyzed FBAs (n = 5, 50%) parents acted as one of the informants for the interviews. Other informants who were involved in the interviews included special educators (n = 4, 40%), paraeducators (n = 2, 20%), occupational therapist (n = 1, 10%), and social worker (n = 1, 10%). Further, analysis revealed that other significant adults such as the bus driver were involved in nearly 10% of the FBAs. Finally, none of the FBAs involved the student as an informant during the interview process.

With regard to direct data collection, the most common method of data collection reported in the analyzed FBAs was the direct observation of the student' behavior. Direct observation was reported in majority of the FBAs (n = 8, 80%). Non-systematic direct observation included anecdotal recording of the antecedent and consequence of behavior using A-B-C forms and was reported in 30% of the analyzed FBAs. In contrary, systematic direct observation, in which coding systems were utilized, was reported in majority of the FBAs (n = 8, 80%) and it included information on frequency and intensity of student's behavior using frequency counts and scatter plots. For example, data was collected on number of times student is hitting peers or running outside the classroom in

a number of different instructional activities such as independent seatwork tasks, group work, and one-on-one instructional activity.

In addition to direct observation of student's behavior, only one FBA included data collection on both teacher and peer behavior (more specifically teachers and peers reaction) in relation to the student's target behavior. Less than half of the FBAs (n = 4, 40%) included direct observation data across multiple settings such as classroom, speech therapist's treatment room, physical education gym, and the cafeteria. While only three FBAs (n = 3, 30%) included direct observation data of the student's target behavior in the presence of different people such as when the student with different teachers or related service therapists.

Development of the BIP

The BIPs were analyzed to the degree to which they were informed by the FBA. A summary of findings is presented in table 35. Analysis revealed that more than half of the BIPs (n = 6, 60%) were successful in applying data collected in the FBA process to identify and actively encourage positive alternative behaviors. The most common positive behaviors indicated in the BIPs included: promoting positive social skills and encouraging positive alternative communication (such as Picture Exchange Communication System) to express wants and needs for students with ASD who were unable to use verbal speech. The remaining BIPs (n = 4, 40%) failed to relate the developed BIP to the function of behavior identified in the FBA process. The BIPs developed only included reinforcement of the desired consequence, which has no direct connection to the function of the target behavior. For example, a BIP was developed for a

student with mild/moderate intellectual disability where the undesired target behavior was tearing down things into small pieces and often eating it even though it is inedible. The BIP proposed provision of fine motor activities for the student; however, the function of the target behavior was not identified throughout the FBA process.

Table 35

Inclusion of Critical Components of the Behavior Intervention Plan (N =10)

BIP component	Number of BIP	Percent (%)
Identified or actively encouraged positive alternative behavior	6	60
Failed to indicated how function influenced the BIP	4	40
Positive behavioral supports	8	80
Aversive consequences for undesired target behavior	1	10
Only aversive consequences for behavior		
Continued previously unsuccessful intervention		
Alter physical or social context as part of intervention plan	10	100
Plan to monitor and evaluate the BIP	9	90
Plan to promote and check maintenance of behavior change		
Plan to promote and check for generalization of behavior change	1	10

Out of the total analyzed BIPs, only one BIP included the use of aversive consequences as part of the intervention plan. In this BIP, the target behavior for a thirteen years old male student with cerebral palsy and severe/profound intellectual

disability was thumb sucking and biting. The target behavior was serving a function of sensory stimulation for the student. The developed BIP employed the delivery of sensory experiences and activities. In addition, an elbow extension splint was proposed as an aversive consequence to prevent the student from thumb sucking and biting. The BIP also included procedures for gradual decrease of the use the splint. Further, none of the analyzed BIPs indicated the use of previously attempted interventions for the undesired behaviors.

All of the analyzed BIPs (100%) indicated strategies to alter either the physical or the social context as part of the intervention plan to decrease undesired target behaviors. The most commonly suggested accommodations were changes in teacher behavior (n = 5, 50%) by increasing attention to desired behaviors and decreasing attention to undesired target behaviors, and curriculum modifications (n = 5, 50%) through provision of sensory experiences and fine motor activities. Followed by changes to the physical environment (n = 4, 40%) which included seating arrangements, changing classroom, and reducing visual and auditory stimuli in the classroom environment. Lastly, almost all of the BIPs (n = 9, 90%) included plans for monitoring and evaluation of the efficacy of intervention plan. In contrary, none of the BIPs encompassed any plans to further check maintenance of behavior change and only one BIP (10%) indicated plan for generalization of the behavior change across different people, settings, or behaviors.

CHAPTER 5: Discussion

Introduction

This study aimed to provide an understanding into two crucial aspects of PBS programs in Qatar: technical adequacy of FBA and professional development needs in the area FBA and behavior intervention strategies. The purpose of this study was twofold. First, the study examined current FBA practices in Qatar and, more specifically at Shafallah Center for Children with Special Needs as well as assessed the discrepancy of current practices towards recommended practices in FBA. Discrepancies were reported as regard to the key features of FBA: team-based process, operational definition of target behavior, identification of context variables influencing the target behavior, identification of function of target behavior, types of data collection, and verification of the hypothesized function of the target behavior. Secondly, the study aimed to shed light on issues related to professional development needs of school personnel in FBA and behavior intervention strategies. Differences were reported in professional development needs of special educators and support professionals. The study also examined special educators' perception of their current skill levels in designing and implementing FBAs and positive behavior interventions. Last of all, the study explored challenges to implementation of PBS from the perspectives of special educators and support personnel.

The study utilized descriptive analysis design, mainly quantitative inquiry, to examine current FBA practices as well as school personnel knowledge and skills in FBA and positive behavior intervention (Blum & Cheney, 2009; Chitiyo & Wheeler, 2008; Snell, Berlin, Voorhees, Stanton-Chapman, & Hadden, 2012). Quantitative research, mainly survey design, had been the primary means to solicit data from special educators

and support staff professionals concerning implementation of FBAs and PBS. Data for this study were collected using both self-administered surveys and critical analysis of the technical adequacy of FBA documents. The primary data sources for this study included: 1) Special Education In-service Needs Assessment (Pindiprolu, Peterson, & Berglof , 2007); 2) the Positive Behavior Supports Implementation Survey (Chitiyo & Wheeler, 2009); 3) Demographic Survey; and 4) FBAs/BIPs Analysis Rating Scale (Van Acker, Boreson, Gable, & Potterton, 2005). Data analysis and results were presented in the previous chapter. This chapter provides discussion of the research questions and findings from the survey responses and FBAs/BIPs critical analysis. Implications of these findings for practice are discussed in terms of continuing professional development of inservice special educators and support professionals. Recommendations for further research as well as discussion of study limitations are presented.

Discussion of Findings

Research Question 1: *To what degree are FBAs and positive behavior interventions being implemented in special education programs in Qatar in terms of technical adequacy?*

Overview

To explore the technical adequacy of FBA practices, ten FBA/BIPs were critically analyzed using the FBAs/BIPs Analysis Rating Scale (Van Acker, Boreson, Gable, & Potterton, 2005). In general, the technical adequacy of the analyzed FBAs/BIPs are unsatisfactory. Though this study was conducted in Qatar, the results were consistent with research literature conducted in USA (Blood & Neel, 2007; Van Acker, Boreson,

Gable, & Potterton, 2005). The majority of FBAs contained many faults that affected the overall FBA process and resulted in improperly designed and ineffective BIPs. One astonishing finding of the study is the composition of the team accountable for the development of the FBA/BIP. Although a team-based approach to FBA is a recommended practice, a single individual, mainly the psychologists, developed all of the analyzed FBAs/BIPs. This is of a great concern as the FBA process is complex and multifaceted requiring the expertise of a group of professionals with extensive training in behavior assessment and positive behavior strategies. Another concern is the fact that FBA is a time-consuming process that requires careful implementation. Therefore, it can be an overwhelming task when a single professional is accountable for it.

Identification of Target Behavior

A critical element of the FBA is the identification of target behavior. Although all of the analyzed FBAs/BIPs specified the target behaviors, there was a widespread variation in terms of the quality of operational definition. Less than half of the analyzed FBAs/BIPs (n = 4; 40%) included a good definition (rating of 4) of the target behavior. The remaining FBAs/BIPs either (n = 4; 40%) had an adequate definition of the target behavior (rating of 3), or (n = 2; 20%) included target behaviors that were less than adequate (rating of 2 or below). A major fault related to the quality of the target behavior was the grouping of multiple problem behaviors under one category and identification of a shared function for those diverse behaviors. Consequently, these various behaviors were identified as one behavior and data was collected under that presumption. Since accurate operational definition of the target behavior guides the whole FBA process, such an error affects precise data collection required to test hypothesized function of target

behavior. This is of great concern as effective BIP development is linked to the data collected through the FBA process. Lastly, an important key feature of operational definition of target behavior is the specification of the seriousness of behavior such as frequency, duration, and intensity. The findings of this study revealed less significant concern as less than half of the analyzed FBAs (n = 4; 40%) failed to provide information on the frequency and seriousness of the target behavior.

Verification of Hypothesis

Another area of significant concern was related to verification of the hypothesized function of the target behavior. Approximately one third (n = 3; 30%) of the analyzed FBAs failed to verify the proposed hypothesis of target behavior function prior to BIP development. Even though less than a third of the FBAs (n = 2; 20%) did not specifically state verification of the proposed hypothesis, necessary information was included to triangulate data through identification of three independent sources of data that provided a mutual clarification for the occurrence of the target behavior. In fact, triangulation of data was the main method utilized in half of the FBAs/BIPs (n = 5; 50%) to verify the hypothesized function of target behavior. The three main data sources utilized to verify the proposed hypothesis included: 1) interviews with individuals who have significant interactions with the student (i.e. special education teachers, parents, paraprofessionals, and/or related services therapists); 2) direct observation of the student's target behavior including frequency counts, scatterplots, and anecdotal recording such as A-B-C forms; and 3) rating scales (i.e. FAST, MAS, TRF, and CTRS-R:L). A surprising aspect regarding verification of the proposed hypothesis of the target behavior is the fact that none of the analyzed FBAs utilized the process of Functional Analysis (FA). FA refers to

the process of experimental manipulation of environmental influences of behavior, more specifically the antecedents and consequences of target behavior, in order to accurately verify of the proposed hypothesis of the target behavior (Hanley, Iwata, & McCord, 2003). In fact, FA procedures have been considered the hallmark for verification of the function of target behavior (Beavers, Iwata, & Lerman, 2013; Schlichenmeyer, Roscoe, Rooker, Wheeler, & Dube, 2013; Schlinger & Normand, 2013; Tiger, Fisher, Toussaint, & Kodak, 2009). Despite the research literature support for FA as a benchmark for verification of hypothesized function of target behavior, the absence of utilization of FA in the analyzed FBAs can be explained by the fact that FA process involves further training on the part of practitioners as well as the being lengthy and time-consuming (LaRue, Lenard, Weiss, Bamond, Palmieri, & Kelley, 2010).

The ultimate objective of the FBA process is the development of an individualized BIP based on the identified function of the target behavior to: decrease the incidence of the problem behavior, and teach new adaptive replacement behaviors (McIntosh, Brown, & Borgmeier, 2008; Scott et al., 2008). Thus, the development of an effective BIP must be informed by information gained through FBA process. The study revealed that slightly less than half of the BIPs (n = 4, 40%) failed to apply data collected in the FBA process to the developed BIPs. The analyzed BIPs were either developed with no relation to the function of the target behavior or included reinforcement of the desired consequence of the target behavior. For example, one of the analyzed BIP for a student with mild/moderate intellectual disability recommended intervention designed to decrease a challenging behavior (tearing down things into small pieces and often eating it even though it is inedible) through provision of a consequence similar to the function of

target behavior (augmenting the student's program with a fine motor activity consisting of tearing things into little pieces).

Even though the majority of the BIPs (n = 8, 80%) recommended the use of positive behavior supports to decrease the occurrences of problem behaviors, it was surprising there was still BIPs that recommended the use of aversive procedures. For example, one BIP designed to decrease the target behavior (thumb sucking and biting) for a thirteen years old male student with cerebral palsy and severe/profound intellectual disability through the use of an elbow extension splint. This may indicate practitioners were inexperienced in positive approaches to behavior change. Remarkably, all of the analyzed BIPs proposed strategies to alter either the physical or the social context as part of the intervention plan. The most commonly suggested accommodations were curriculum modifications (n = 5, 50%) and changes in teacher behavior (n = 5, 50%) followed by changes to the physical environment (n = 4, 40%) such as seating arrangements, changing classroom, and reducing visual and auditory stimuli in the classroom environment. Lastly, even though the majority of BIPs (n = 9, 90%) included plans for monitoring and evaluation of the efficacy of intervention plan, considering the time and effort spent in the development of FBAs/BIPs, none of the BIPs contained any plans to check maintenance of behavior change and only one BIP had a plan for generalization of the behavior change across different people, settings, or behaviors.

Research Question 2: *How do special educators perceive their current skill levels in designing and implementing FBAs and positive behavior interventions?*

To assess participants' skill levels in designing and implementing FBAs and positive behavior interventions, two rating scales were used: 1) The Special Education In-

Service Needs Assessment and 2) The Positive Behavior Supports Implementation Survey. In the third section of the Special Education In-service Needs Assessment, participants rated their current skill level in eight FBA areas on a 4-point scale (none, low, moderate, and high). The overall means across the eight FBA procedures were analyzed for the total sample participants as well as the sub-groups (special educators, paraeducators, psychologists, and support professionals).

Of all the eight skills necessary to conduct FBA, hypothesis testing of the purpose of the problem behavior was rated the lowest skill (M = 2.89) by the total participants' sample. Interestingly, this finding was consistent with the research of Pindiprolu, Peterson & Berglof (2007) where the majority of study participants (general and special educators, administrators, and support staff) rated their skill levels as the lowest (M = 2.56) in hypothesis testing. Nevertheless, subgroups data analysis revealed that only psychologists rated this area as a "high" skill level (M = 3.69) compared to special educators, paraeducators, and support professionals. This variance in perceived skill level mirrors the primary role of psychologists in conducting FBAs and developing BIPs at Shafallah Center. This finding was also corroborated by the results from the FBAs/BIPs Analysis Rating Scale, which revealed absence of team-based approach to FBA practices. In fact, psychologists rated their skills as high in all the eight skills necessary to conduct FBA, which was expected as they were the only discipline in charge of FBAs/BIPs at the center.

In addition to the hypothesis testing of the purpose of problem behavior, the majority of participants rated their skills level as "low" in the areas of recording procedures for measuring problem behaviors, and conducting ongoing assessment of

changes in behavior due to intervention (M = 2.98 for both areas), and developing intervention plans to decrease problem behavior and/or increase desired behaviors (M = 2.99). Ironically, these are fundamental components in conducting effective FBA, designing sound BIPs, and establishing effective behavior supports for students with challenging behaviors (Anderson & Borgmeier, 2010; Anderson, Rodriquez, & Campbell, 2015; Beavers, Iwata, & Lerman, 2013; Cale, Carr, Blakeley-Smith, & Owen-DeSchryver, 2009; Debnam, Pas, & Bradshaw, 2012; Ishuin, 2007; Iwata & Worsdell, 2005; Mcintosh & Av-Gay, 2007; Lane, Menzies, Bruhn, & Crnobori, 2011; Scott, Anderson, & Spaulding, 2008).

Further, an expected finding was the paraeducators' perceived skill levels with FBA. Paraeducators rated their skills level as "low" in all eight areas of FBA, with the lowest skill was for interviewing caregivers and recording procedures for measuring problem behaviors (M = 2.63 for both) followed by hypothesis testing of the purpose of problem behavior (M = 2.66). This is of great concern as there is an overreliance on paraeducators in carrying out of special education service specifically for students with low incidence disabilities such as ASD and severe behavior disorders. In fact, research literature has linked overreliance on paraeducators to unintentional negative effects including fostering dependence, limited relationships with peers, and aggravation of behavior problems (Blatchford, Russell, & Webster, 2012; Etscheidt, 2005; Giangreco, 2009; Giangreco & Broer, 2005; Giangreco, Suter, & Doyle, 2010; Giangreco, Yuan, McKenzie, Cameron, & Fialka, 2005; Malmgren & Causton-Theoharis, 2006; Walker, 2017).

Another interesting finding of this study was that of support professionals (one occupational therapist, two art teachers, and one physical education teacher) perceived skill levels with FBA. Support professionals indicated their skill levels were low in all areas of FBA with the exception of interviewing caregivers regarding behavioral problems (M = 3.25). This finding was astonishing as support professionals indicated they were "extremely well prepared" to work with children with problem behaviors (n = 2; 50%), "well prepared" (n = 1; 25%), and "somewhat prepared" (n = 1; 25%). Nevertheless, this may be reflective of the pre-service education of related services therapists. Therapists are typically educated and trained as generalists to work with clients across the age span with a wide range of medical conditions and disorders. In fact, therapists receive a general pre-service education that prepares them to work in a wide range of settings from hospital to school and community based settings. Thus, they are not specifically prepared to practice in any of these settings which are considered an advanced practice area. Besides, research studies indicate that many therapists feel they were not adequately prepared to practice in these advanced and highly specialized settings and do not view themselves as competent in standards of practices recommended by their professional associations (Arbesman, Bazyk, Nochajski, 2013; Ashburner, Rodger, Ziviani, & Jones, 2014; Brandenburger-Shasby, 2005; Campbell & Sawyer, 2007; Cleland, Fritz, Brennan, & Magel, 2009; Compton, Tucker, & Flynn, 2009; Jones, McIntyre, & Naylor, 2010; Peterson, Luze, Eshbaugh, Jeon, & Kantz, 2007).

In addition to the Special Education In-service Needs Assessment, the Positive Behavior Supports Implementation Survey was utilized to assess participants' perceived challenges to PBS implementation at Shaffalh Center. Fidelity of PBS implementation is

dependent on accurate PBS practices at both the school-wide and classroom level (Bambara, Nonnemacher, & Kern, 2009; Chitiyo & Wheeler, 2009; Coffey & Horner, 2012; Fallon, McCarthy, & Hagermoser Sanetti, 2014; Lohrmann, Forman, Martin, & Palmieri, 2008; McIntosh, Mercer, Hume, Frank, Turri, & Mathews, 2013). School-wide practices include administrator support, team based approach, collaborating with family, and availability of resources (i.e. time, funding, staffing). Unlike school-wide PBS practices, evaluation of classroom-based PBS practices provides an insight into challenges and barriers specific to the individual implementers of PBS (Fallon, McCarthy, & Hagermoser Sanetti, 2014). In other words, it focuses on special educators and support personnel individual difficulties at the FBAs/BIPs level.

The first question of the Positive Behavior Supports Implementation Survey utilized a Likert-type format to assess participants' perception of difficulties during PBS implementation. Difficulties were organized into four categories: 1) specific skills, 2) techniques, 3) shared values, and 4) other areas. Of interest were the first two categories of skills and techniques that reflect difficulties in PBS implementation at the classroom level practices. Interestingly, of all the items across the four categories, the three most difficult items reported by the overall participants were in the "specific skills" category. These items include: formulating hypothesis using functional assessment data (M = 5.27), data interpretation (M = 4.96), and using graphs to present data (M = 4.87). This finding was to some extent consistent with difficulties illustrated in previous research literature relating to PBS classroom-based practices (Anderson, Rodriquez, & Campbell, 2015; Beavers, Iwata, & Lerman, 2013; Chitiyo & Wheeler, 2009; Moreno, Wong-Lo, Bullock, 2017) In their study of special and regular education teachers in a school district in

Southern Illinois, the three most difficult classroom-based practices in PBS implementation ("specific skills" and "techniques" categories) were: teaching alternative/replacement behaviors (M = 4.70), conducting functional behavioral assessments (M = 4.19), and formulating hypothesis using functional assessment data (M = 4.10). Remarkably, the least difficult classroom-based PBS practice was in the "specific skills" category related to the use of reinforcement to increase desired behaviors (M = 2.51), which was consistent with that (M = 2.57) demonstrated in research literature (Chitiyo & Wheeler, 2009). Other areas of noteworthy difficulties in the "techniques" category included: designing of behavior support plans (M = 4.42) and evaluating behavior interventions (M = 4.41). Oddly, these are essential practices in the classroom to effective PBS implementation for students with challenging behaviors (Anderson & Borgmeier, 2010; Beavers, Iwata, & Lerman, 2013; Coffey & Horner, 2012; Debnam, Pas, & Bradshaw, 2012; Fallon, McCarthy, & Hagermoser Sanetti, 2014; Lane, Menzies, Bruhn, & Crnobori, 2011; McCurdy, Skinner, Ervin, 2017; Moreno, Wong-Lo, Bullock, 2017).

Moreover, study findings revealed differences in ratings of difficulty according to the participants' primary roles across both the "specific skills" and "techniques" categories. Interestingly, in the "specific skills" category both special educators and paraeducators rated the same skills as being most difficult PBS classroom-based practices. Special educators indicated most difficulty with: using graphs to present data (M = 4.92), formulating hypothesis using functional assessment data (M = 4.87), and data interpretation (M = 4.06). Likewise, paraeducators indicated most difficulty with the same skills of formulating hypothesis using functional assessment data as being most

difficult (M = 5.12), data interpretation (M = 4.95), and using graphs to present data (M = 4.20). This may be related to the lack of team based approach to FBAs/BIPs at the Shafallah Center. Unlike paraeducators, special educators have the skills, knowledge, and ability required for conducting FBAs and designing and implementing BIPs. Yet, to develop highly effective FBAs/BIPs, special educators must have the opportunity to demonstrate their competence through practice and collaboration as a member of the PBS team. Unfortunately, the lack of team based approach to FBAs/BIPs at Shafallah Center is not conducive to development of competency required for technically sound FBAs/BIPs.

On the contrary, special educators and psychologists did not have much difficulty with the PBS classroom-based practices in the "techniques" category. In fact, psychologists did not report any difficulty in any of the four categories (specific skills, techniques, shared values, and other areas). This in turn reflects their primary role in the FBAs/BIPs process at the Center. As expected, paraeducators indicated difficulty with almost all of the items in the "techniques" category with the exception for use of reinforcement to promote desired behavior (M = 3.15) and use of observations as a method of data collection procedure (M = 3.49). Lastly, support professionals reported most difficulty with implementing behavior interventions (M = 4.50), developing behavior support plans (M = 4.00), and evaluating interventions (M = 4.00). These findings were consistent with previous research that most related services therapists were inadequately prepared to practice in specialized settings such as school-based and early childhood programs (Ashburner, Rodger, Ziviani, & Jones, 2014; Brandenburger-Shasby,

2005; Campbell & Sawyer, 2007; Compton, Tucker, & Flynn, 2009; Jones, McIntyre, & Naylor, 2010).

Research Question 3: *What are the areas in need of professional development from the perspectives of special education teachers and support staff?*

An important aspect of this study was to examine professional development and training needs of special educators and support staff at Shafallah Center. The study also looked at differences in training needs among special educators and support staff, more specifically as it relates to FBAs/BIPs. The Special Education In-service Needs Assessment was utilized as the major instrument to explore professional development needs of school personnel at Shafallah Center (Pindiprolu, Peterson, & Berglof, 2007). In addition, participants' perception in areas in which they needed technical assistance was explored utilizing qualitative data from the fourth open ended question in the Positive Behavior Supports Implementation Survey (Chitiyo & Wheeler, 2009).

In the second section of the Special Education In-service Needs Assessment, participants rated their professional development needs as well as their colleagues' training needs on a 4-point Likert scale (none, low, moderate, and high). Overall, the study findings revealed that participants perceived the top four areas of high professional development need were: Assistive technology use for children with disabilities (M = 2.93), FBA (M = 2.80), and effective teaching procedures for children with disabilities as well as restraint procedures (M = 2.79) which were ranked as equally important. It was interesting that the highest area of professional development needs was in the area of Assistive technology use for children with disabilities resonate with previous research

(Alghazo & Alghazo, 2014; Arthanat, Elsaesser, & Bauer, 2017; Bausch & Ault, 2012; Bausch , Ault , & Hasselbring, 2015; Costigan & Light, 2010; Da Fonte & Boesch, 2016; Li, Ajuwon, Smith, Griffin-Shirley, Parker, & Okungu, 2012; Li, Parker, Smith, & Griffin-Shirley, 2011; Long & Perry, 2008; Long, Woolverton, Perry, & Thomas, 2007; Oakley, Howitt, Garwood & Durack, 2013; Smith & Kelley, 2007; Stoner, Parette, Watts, Wojcik, & Fogal, 2008; Whetstone, Abell, Collins, & Kleinert, 2013), which states that assistive technology plays a critical role in promoting functional capabilities of children with disabilities in the area of communication, cognition, mobility within the school environment, social skills, and academic tasks (i.e. reading, writing, listening, and math) (Ault, Baggerman, & Horn, 2017; Bone & Bouck, 2017; Coleman, Cady, & Rider, 2015; Connor & Beard, 2012; Floyd & Judge, 2012; Gevarter, O'Reilly, Kuhn, Mills, Ferguson, Watkins, & Lancioni, 2016; Min Wook & Woori, 2017; Schuck, Emmerson, Ziv, Collins, Arastoo, Warschauer, et al., 2016; Van der Meer, Kagohara, Achmadi, O'Reilly, Lancioni, Sutherland, & Sigafoos, 2012; Van der Meer, Sutherland, O'Reilly, Lancioni, & Sigafoos, 2012; Vermeulen, De Raeve, Langereis, & Snik, 2012; Walker & Snell, 2013). Recent research also demonstrates the impact of assistive technology adaptation in improving behavior functioning of children with ASD, behavior disorders, developmental disabilities, and visual impairments (McKeown, Kimball, & Ledford, 2015; Min Wook & Woori, 2017; Neely, Rispoli, Camargo, Davis, & Boles, 2013; Obiyo, Igbo, & Onu, 2013; Parette, Crowley, Wojcik, 2007; Schuck, Emmerson, Ziv, et al., 2016; Trivette, Dunst, Hamby, & O'Herin, 2010; Walker & Snell, 2013). In particular, recent research on Augmentative and Alternative Communication (AAC) interventions, such as Speech-generating devices, demonstrated positive effects in decreasing challenging behaviors

(i.e. disruptive, destructive, and distracting behaviors) that are serving communicative function for children with ASD, and Intellectual and Developmental Disability (Harding, Wacker, Berg, Winborn-Kemmerer, & Lee; 2009; Kuhn, Chirighin, & Zelenka, 2010; Mancil, Conroy, & Haydon, 2009; Moore, Gilles, McComas, & Symons; 2010; Neely, Rispoli, Camargo, Davis, & Boles, 2013; Schieltz, Wacker, Harding, Berg, Lee & Dalmau, 2010; Walker & Snell, 2013; Winborn-Kemmerer, Ringdahl, Wacker, & Kitsukawa, 2010). In addition to recent research that focused on using iPad Applications as a tool to support adaptive behaviors as well as to promote self-awareness and self-regulation for children with challenging behaviors (Neely, Rispoli, Camargo, Davis, & Boles, 2013; Schuck, et al., 2016). Despite research literature support for the positive effects of assistive technology, special education teachers and related services professionals are often inadequately prepared in provision of assistive technology services for children with disabilities and lack mastery level of assistive technology competencies (Arthanat, Elsaesser, & Bauer, 2017; Bausch & Ault, 2012; Bausch , Ault , & Hasselbring , 2015; Costigan & Light, 2010; Da Fonte & Boesch, 2016; Li, Ajuwon, Smith, Griffin-Shirley, Parker, & Okungu, 2012; Li, Parker, Smith, & Griffin-Shirley, 2011; Long & Perry, 2008; Long, Woolverton, Perry, & Thomas, 2007; Moore & Wilcox, 2006; Oakley, Howitt, Garwood, & Durack, 2013; Smith & Kelley, 2007; Stoner, Parette, Watts, Wojcik, & Fogal, 2008; Whetstone, Abell, Collins, & Kleinert, 2013).

Both effective teaching procedures for children with disabilities and restraint procedures (M = 2.79) were ranked as the top third area of professional developmental need by participants and of equal importance. Within the field of special education, there

is an overwhelming need for special educators to become better equipped with evidence-based strategies to work with students with a wide range of disabilities (Deshler, 2015; Kauffman & Badar, 2016; Kauffman & Badar, 2014). These strategies are often referred to as "Best Practices" or "High Leverage Practices" and have been demonstrated by research to result in positive outcomes for students with disabilities (McLeskey, Barringer, Billingsley, Brownell, Jackson, Kennedy, et al., 2017). Of importance is Instruction High Leverage Practices, more specifically Explicit and Direct Instruction, that has been supported by extensive research to improve academic achievement of students with disabilities across domains of reading, mathematics, and writing (Deshler, 2015; Doabler, et al., 2017; Doabler, et al., 2015; Fuchs & Vaughn, 2012; Graham, McKeown, Kiuhara, & Harris, 2012; Hughes, Morris, Therrien, & Benson, 2017; Joseph, Alber-Morgan, & Neef, 2016; Powell, Fuchs, & Fuchs, 2013; Smith, Spooner, & Wood, 2013). Despite the compelling research support, special educators report many challenges in implementing instructional best practices with fidelity (Brock & Carter, 2017; Brock & Carter, 2015; Brock, Huber, Carter, Juarez, & Warren, 2014; Cook & Cook, 2013; (Cook & Odom, 2013; Fallon, Collier-Meek, Maggin, Sanetti, and Johnson, 2015). Recent and previous research demonstrated the need to provide pre-service and in-service special education teachers as well as paraprofessionals with training continuing professional opportunities to better implement effective instructional strategies in their everyday practices (Deshler, 2015; Brock & Carter, 2017; Brock, et al., 2014).

A striking concern in the study finding was the restraint procedures, which was ranked as a top third priority for professional development needs. The fact that this area was ranked as a "high" area of professional development needs by 30% (n = 50) of the

participants indicted the clear lack of understanding of the whole premise of PBS as a system for prevention and intervention to address challenging behaviors. It also reflects the current behavior management approach that the center utilizes to deal with challenging behavior that is more reactive in nature and tends to rely on punitive strategy rather than supporting appropriate behaviors.

Research Question 4: *How do special education teachers working in Qatar view FBA and behavior interventions as an area of professional development needs?*

An important aspect of this study was to examine professional development and training needs of special education teachers and support staff as well as their current skill level in FBA procedures. The Special Education In-service Needs Assessment developed by Pindiprolu, Peterson, and Berglof (2007) was used as the major avenue of gaining insight into the professional development needs at Shafallah Center. In the first section of the Needs Assessment participants rated their professional development needs and their colleagues' professional needs on a 4-point Likert scale (none, low, moderate, and high). Overall, participants rated all four areas of behavior-related training topics in the survey as top areas of professional development need including: FBA (M = 2.80), Restraint procedures (M = 2.79), Positive and negative reinforcement strategies (M = 2.75), and Intervention for behavior problems (M = 2.69). These findings were consistent with previous and recent research studies that identified FBA and behavior interventions as top educational and training needs among special educators and support staff (Blood & Neel, 2007; Cook et al., 2007; Gable, Tonelson, Sheth, Wilson, & Park, 2012; Killu, Weber, Derby, & Barretto, 2006; Loman & Horner, 2014; Pindiprolu, Peterson, & Berglof, 2007; Quesenberry, Hemmeter, & Ostrosky, 2011; Van Acker, Boreson, Gable, & Potterton,

2005; Walker, 2017; Weber, Killu, Derby, & Barretto, 2005). In fact, FBA was rated as a top training need across the four participants' sub-groups of special educators, psychologists, paraeducators, and support professionals. Likewise, participants indicated that their colleagues would benefit from training in the areas of: restraint procedures (M = 3.24), intervention for behavior problems (M = 3.23), FBA (M = 3.20), and positive and negative reinforcement strategies (M = 3.18).

With regard to special educators, the study revealed a strong training need in FBA as documented by the results of both the Special Education In-service Needs Assessment and the Positive Behavior Supports Implementation Survey. Special educators rated FBA (M = 2.83) as the second top area of professional development need right after assistive technology use for children with disabilities (M = 2.86). Special educators also reported low skill level in conducting ongoing assessment of changes in behavior due to intervention (M = 2.98) and hypothesis testing of the purpose of problem behavior and its relationship to the environment (M = 2,89) which were consistent with previous research studies (Loman & Horner, 2014; Pindiprolu, Peterson, & Berglof, 2007; Van Acker, Boreson, Gable, & Potterton, 2005). In fact, analyses of the Positive Behavior Supports Implementation Survey revealed that using graphs to present data (M = 4.92), formulating hypothesis using functional assessment data (M = 4.87), and data interpretation (M = 4.06) were reported as the most difficult and challenging areas in implementation of PBS. Not surprisingly, special educators perceived the highest three areas of professional development needs for their colleagues were: restraint procedures (M = 3.12), intervention for behavior problems (M = 3.10), and FBA (M = 3.07).

Recommendations

Through careful examination of major findings of the study, following are recommendations to address technical inadequacies in FBA and Function Based Interventions at Shafallah Center. These recommendations are intended to foster a proactive strategy to address challenging behaviors of young children with disabilities, and to provide continuing professional development opportunity to special educators and support staff working in Shafallah Center:

1. ***Implementation of Schoolwide-Positive Behavior Intervention and Supports (SW-PBIS) in Shafallah Center.***

   The Shafallah Center provides an Alternative Education (AE) setting for students with disabilities in the State of Qatar. Although there is a wide range of definitions for AE, generally it refers to any educational program or setting that is offered outside of the mainstream k-12 traditional schooling (Gelbar, Jaffery, Stein, & Cymbala, 2015; Porowski, O'Conner, & Luo, 2014). Every AE program is unique depending on the target population served and type of services provided (for example, academic instruction, counseling, and/or social/life skills). The Shafallah Center share several features that are common of AE setting including: provision of special education and related services to only students with intellectual disabilities, the setting is a standalone building that is separate from typical traditional schools, and a low staff-to-student ratio (1:3 ratio for the Preschool and School-Age programs and 1:2 ratio for ASD program).

As an AE setting, the Shafallah Center is required to support students with intellectual disabilities who have a wide range of behavioral needs and challenges. Yet, the study findings demonstrate that service providers working at Shafallah Center tend to use a more reactive approach to address students' challenging behaviors, unfortunately, research proves these reactive measures to be the least effective and may in fact lead to increase in problem behaviors (Bradshaw, Mitchell, & Leaf, 2010). Thus, it is of critical importance that Shafallah Center adopts evidence-based practice to address challenging behavior of students with disabilities and to support their social and emotional development. One of this evidence based practice is Schoolwide Positive Behavior Intervention and Supports (SW-PBIS) which is a proactive strategy that has been supported by research literature to result in positive behavioral outcomes (Benner, Kutash, Nelson, & Fisher, 2013; Boneshefski & Runge, 2014; Bradshaw, Waasdorp, & Leaf, 2012; Burke, Davis, Hagan-Burke, Lee, & Fogarty, 2014; Burk, Davis, Lee, Hagan-Burke, Kwok, & Sugai, 2012; Carter, Carter, Johnson, & Pool, 2013; Chitiyo, May, & Chitiyo, 2012; Collins, Hawkins, & Nabors, 2016; Flannery, Frank, Cato, Doren, & Fenning, 2013; Leff, Waasdorp, & Paskewich, 2016; Mathews, McIntosh, Frank, & May, 2014; Mitchell, Adamson, & McKenna, 2017; Wills, Kamps, Fleming, & Hansen, 2016).

The Shafallah Center serves students with intellectual disabilities who are at-risk or may already have challenging behaviors that adversely affect their academic and social outcomes. For that reason, Shafallah Center will benefit from integrating SW-PBIS with their existing behavior management. Compared to

traditional school settings, implementation of SW-PBIS in AE setting present some challenges due to unique features of these settings. Nevertheless, emergent research studies demonstrated positive behavioral outcomes for AE settings adopting SW-PBIS (Benner, Kutash, Nelson, & Fisher, 2013; Fallon & Feinberg, 2017; Farkas, Simonsen, Migdole, Donovan, Clemens, & Cicchese, 2012; Jolivette, McDaniel, Sprague, Swain-Bradway, & Ennis, 2012; Gelbar, Jaffery, Stein, & Cymbala, 2015; Jolivette, Patterson, Swoszowski, McDaniel, Kennedy, & Ennis, 2014; Jolivette, Swoszowski, & Ennis, 2013; Mathur & Nelson, 2013; McDaniel, Jolivette, & Ennis, 2014; Simonsen & Sugai, 2013; Trussell, Lewis, & Raynor, 2016).

Unlike the current behavior management system in Shafallah Center, SW-PBIS is a proactive system that provide a multi-tiered continuum of supports and interventions. Implementation of SW-PBIS involves the development of a system of schoolwide, targeted, and individualized strategies to support positive behavioral outcomes. This is achieved through a three-tiered support system that range from less intensive to more intensive supports: universal supports for all students (Tier I), targeted supports for students at risk for continued problem behavior (Tier II), and intensive individualized supports for students with the most chronic behavioral problems (Tier III) (Jolstead, Caldarella, Hansen, Korth, Williams, & Kamps, 2017; Rodriguez, Loman, & Borgmeier, 2016; Stanton-Chapman, Walker, Voorhees, & Snell, 2016). Because students with intellectual disabilities are at-risk or already have challenging behaviors, researchers recommend a more intensive approach to implementation of SW-PBIS to best

meet the behavioral needs of students in AE settings (Farkas, et al., 2012; Gelbar, Jaffery, Stein, & Cymbala, 2015; Jolivette, Patterson, Swoszowski, McDaniel, Kennedy, & Ennis, 2014; McDaniel, Jolivette, & Ennis, 2014; Simonsen & Sugai, 2013). Further, the low staff-to-student ratio that is characteristic of AE settings provide a great advantage because it allows for the use of such intensive approach than it is possible for traditional school settings. Yet, to overcome challenges to SW-PBIS implementation in AE settings, research studies demonstrates it can be achieved through: Enhanced Tier 1 Services and Intensive Staff Training (Gelbar, Jaffery, Stein, & Cymbala, 2015; Mathur & Nelson, 2013; McDaniel, Jolivette, & Ennis, 2014). Enhanced Tier 1 services refers to a more intensive supports and interventions than typically used in traditional school settings. The aim is to meet the needs of approximately 80% of the students in AE setting, thereby less students will require the more intensive Tier 2 and Tier 3 services. An example is utilizing individual tracking of student behavior, which is usually a Tier 2 intervention in general school setting (Gelbar, et al., 2015). In addition to the intensive Tier 1 services, provision of intensive staff training is critical to facilitate implementation of SW-PBIS in AE settings. Because staff buy-in and administrative support is key to success of SW-PBIS, intensive training should target all school personnel (administrative, instructional, and clinical staff) and include: overview of PBS, overview of teaming approach, description of the systems and practices of SW-PBIS, and principles of functions of behavior.

2. ***Provision of Professional Development in FBA and Function-Based Intervention to Special Educators and Support Staff Working in Shafallah Center.***

Implementation of positive behavior intervention requires building the Shafallah Center capacity to conduct FBA. All the personnel working at the center (including instructional, clinical, and support staff) must have the knowledge, skills, and competencies to apply positive intervention supports at the first signs of problem behaviors that do not respond to universal Tier 1 intervention and not to wait until problem behaviors increase in severity. For that reason, it is of critical importance that professionals as well as support staff be trained in conducting FBA. Recent research studies demonstrated that brief training in conducting simple FBA is beneficial for paraprofessionals (paraeducators and support staff) working with students with disabilities in AE settings as opposed to the advanced training on conducting complex FBA designed for professionals (Borgmeier, Loman, Hara, & Rodriguez, 2015; Courtemanche, Sheldon, Sherman, Schroeder, Bell, & House, 2014; Lambert, Bloom, Kunnavatana, Collins, & Clay, 2013; Loman & Horner, 2014; Strickland-Cohen, Kennedy, Berg, Bateman, & Horner, 2016).

Researchers recommends a wide range of FBA training from training manuals to instructional videos to workshops to university courses (Allen, Mikami, Hafen, & Pianta, 2014; Borgmeier, Loman, Hara, & Rodriguez, 2015; Courtemanche, Sheldon, Sherman, Schroeder, Bell, & House, 2014; Gage, MacSuga-Gage, & Crews, 2017; Loman & Horner, 2014; Pétursdóttir, 2017). Yet,

effective professional development can often be demanding in terms of time and resources. Nevertheless, school personnel must be trained in FBA procedures and function-based interventions in a way that is acceptable and feasible to them (McKenney, Waldron, & Conroy, 2013). The study findings revealed the primary preferred method of professional development for participants was all-day workshop. Followed by series of brief (e.g. 2 hours) workshops and university courses. Therefore, the Shafallah Center needs to develop a strategy for Continuing Professional Development (CPD) and invest in a year-round training in FBA and function-based interventions for all staff working in the center to ensure positive behavioral outcomes for students with disabilities. In addition, the center will benefit from exploring options for provision of on-campus classes or online e-learning in FBA and function-based interventions through collaboration with the Special Education Program at Qatar University.

A key to implementation and sustainability of SW-PBIS is collaborative teamwork. Recent research literature revealed that positive behavior support practices are most likely to succeed and be sustained when administrative, instructional, and clinical professionals work in teams and communicate consistently and at a high quality (George & Childs, 2012; Gelbar, Jaffery, Stein, & Cymbala, 2015; McIntosh et al., 2013, Woodland & Hutton, 2012). Establishing a Positive Behavior Support (PBS) Team will assist Shafallah Center in building its capacity to effectively support the behavioral needs of all students, as it will serve as a high leverage approach to conducting valid FBA and BIPs. The PBS team include key stakeholders from administrative, instructional, and

clinical support professionals (e.g. special educators, clinical social worker, clinical school psychologist, and behavior specialist). A key to a PBS team is having Behavioral Specialists who are professionals with a graduate degree (psychology or special education), advanced training in behavior analysis, and are Board Certified Behavior Analyst (BCBA) (Bethune & Kiser, 2017). Further, the Shafallah Center would benefit by investing in recruiting and hiring a BCBA, not only to guide the team in designing and implementation of positive behavior interventions but also to coordinate training in FBA and BIPs. The aim is to extend the role of behavior analyst and build the Center capacity to conduct valid FBA and positive behavior interventions. Relying on "experts" to deliver training and provide on-going technical assistance has been the long-standing traditional model for professional development. However, for large-scale system change such as SW-PBIS, successful implementation depends on building "expertise" across instructional and clinical staff within the center. In that way, professional learning and development will be embedded into the jobs and daily functions of school personnel. (Fisher, Shortell, & Savitz, 2016; Horner & Sugai, 2015; Lewis, Barrett, Sugai, Horner, Mitchell, & Starkey, 2016; Sugai, Simonsen, Freeman, & La Salle, 2016; Wood, Goodnight, Bethune, Preston, & Cleaver, 2016).

Because students with Intellectual and Developmental Disabilities being served by Shafallah Center are at risk of developing challenging behaviors, personnel working at the Center can benefit from a efficient training in basic FBA/BIP methods and processes. Thus, talking these factors into consideration and based on the study findings, a series of mini workshops consisting of two-

hour training sessions would be the most appropriate FBA/BIP training for instructional and clinical professionals working at Shafallah Center. By offering a continuum of a professional development series, the Center can increase the number of professionals and support staff with knowledge of basic FBA/BIP methods and become more equipped to provide individualized positive strategies to support students' behavior especially when students begin to show the early signs of problem behaviors.

The proposed basic FBA/BIP training is a phased approach with three distinct phases that utilize best practices in professional development for both instructional and clinical personnel working with children with challenging behaviors. These best practices include: modeling, role playing, follow-up support and coaching, and translation of newly acquired skills to the classroom environment (Reinke et al., 2014). Further, the training will emphasize the use of real world examples to train professionals and support staff in basic FBA/BIP methods and procedures. Therefore, allowing trainees the opportunity to practice newly acquired knowledge and skills with students they are working with in the Center. The three phases training are as follows (Figure 25 provide a graphical presentation of the three phased FBA/BIP training):

The training consists of three-phases: (I) Training Phase, (II) Independent Phase, and (III) Follow up Phase. The aim is to provide a cost-efficient and time-effective training model for instructional and support staff to acquire new skills and continue to use them over time. So, the emphasis is on acquisition and maintenance of the desired skills.

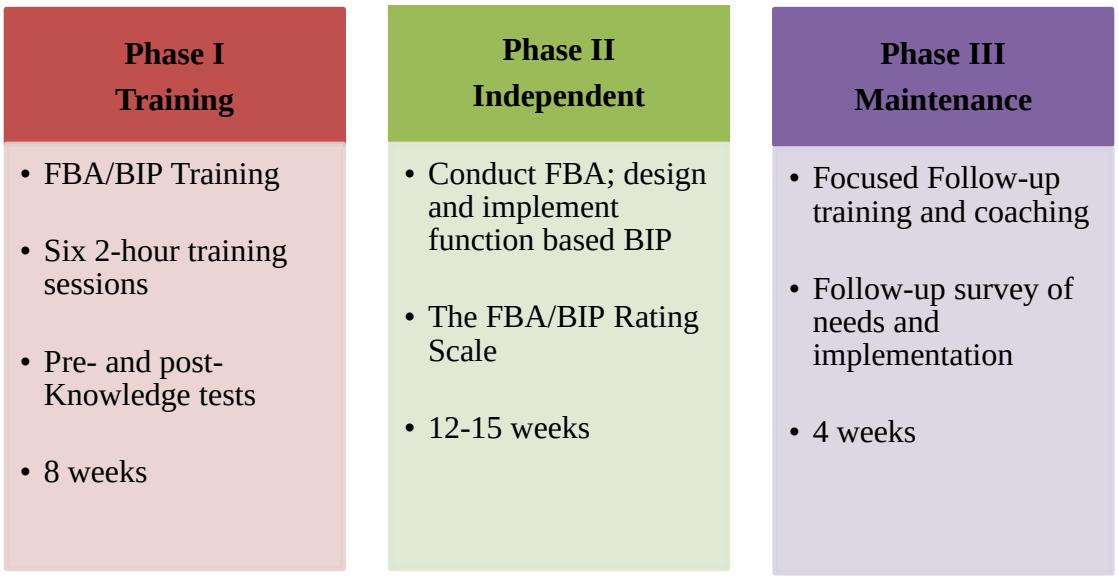

Figure 22. Graphical Presentation of the Three Phased FBA/BIP Training

Phase I: The initial phase consists of delivering training and ongoing professional development opportunities to instructional and support staff on fundamental principles and core features of PBS, Applied Behavior Analysis, and basic FBA/BIP methods and procedures. The aim is for trainees to gain the knowledge of the core concepts and processes for conducting a technically valid FBA and designing function based BIP. This training consists of six 2-hour training sessions delivered once a week over a period of eight weeks. The training utilizes the recent version of the FBA to BSP Training Curriculum (Loman, Strickland-Cohen, Borgmeier, & Horner, 2013; Strickland-Cohen et al., 2016). Research has demonstrated this training curriculum to be effective in increasing trainees' knowledge of FBA/BIP. Modules included in the training curriculum include: 1) Defining and understanding behavior; 2) FBA interviewing and using the Functional Assessment Checklist for Teachers and Staff (FACTS); 3) FBA

observation of behavior. utilize information obtained from FACTS interviews to plan for observations, and practice using ABC Recording Form; 4) Critical features of Behavior Support Plan (BSP); 5) Building BSP from FBA and selecting function-based interventions; and 6) Implementation and evaluation planning. Further, measures of change in trainees' knowledge, consisting of pre- and post- training tests of FBA/BIP knowledge, must be collected from trainees during this phase to have a baseline data of the trainees' knowledge and effectiveness of FBA/BIP training.

Phase II: The second phase is the Independent Phase and it involves the trainees using their newly acquired knowledge and skills in FBA/BIP to complete a technically valid FBA for a student they are working with in the Center and utilize it to inform the development of a contextually appropriate function based BIP. During this phase, trainees have the opportunity for independent practice. This phase assesses the retention of skills over time in order to determine whether instructional and support staff continue to use the skills they acquired following the training. The aim of this phase is assessing the trainees' ability to conduct a technically valid FBA and design a function based BIP with high integrity. Trainees must be allowed enough time (12-15 weeks) to conduct the FBA, design and implement the BIP, and collect data to evaluate effectiveness of BIP in terms of decreasing problem behaviors and improving academic/activity engagement. The FBAs/BIPs Analysis Rating Scale provide a measure to evaluate technical adequacy of FBA and to critically analyze FBA/BIP documents (Van Acker, Boreson, Gable, & Potterton, 2005). The rating scale allow for two types of

analyses: a) absence or presence of each key variable of FBA procedure and BIP development, and b) the quality of each variable using a 5-point Likert rating scale (0 = missing, 1 = poor, 2 = fair, 3 = average, 4 = good, and 5 = excellent) (Appendix D). Further, the rating scale allow for analysis across key areas: 1) the composition of the IEP team members accountable for FBA/BIP development; 2) identification and definition of the target behavior(s); 3) identification and verification of the hypothesized function of the target behavior; 4) FBA data collection methods and triangulation of data; 5) identification of context variables that impact the target behavior; 6) verification of the hypothesized function; 7) linking of FBA data in BIP; 8) identification of alternative behaviors and use of positive behavioral supports; and, 9) monitoring and evaluation of the BIP.

Phase III: The third phase is the Follow-up Phase and it involves follow up on continued use of FBA/BIP procedures. This phase consists of focused follow-up training and coaching to ensure sustainability of training effects and that effective implementation of FBA/BIP is maintained over time. During this phase, trainees complete a follow-up survey relating to: The number of FBAs conducted and BIPs designed and implemented, whether they used the FBA methods learned from the training, identify factors that enabled implementation of FBA/BIP training as well as challenges and barriers, and identify areas of additional professional development needs in FBA/BIP process.

Implication for Future Research

The present study extends current research literature by providing an insight into current FBA practices in Qatar and issues related to professional development needs of school personnel in FBA and positive behavior interventions. The study is the first attempt to explore professional development needs of instructional and clinical professionals including special educators, psychologists, support staff as well as paraeducators working with students with intellectual disabilities. Additionally, the study adds to current research literature on AE settings as it relates to technical adequacy of FBAs and BIPs and implementation of PBS.

To address the needs of students with challenging behaviors, it is important to have a clear understanding of the knowledge and skills of the professionals who are working with them (Beam & Mueller, 2017). Thus, future research must focus on evaluating the outcomes of in-service professional development and training in FBAs and positive BIPs. Given that training can be time-consuming and require many resources, it is critical that future studies investigate the efficiency and validity of the FBA training process in producing positive outcomes for both professionals and students with intellectual disabilities. More specifically, assessing the ability of these professionals to complete technically adequate FBAs and implementing BIPs with fidelity. In addition to evaluating behavioral outcomes for students with intellectual disabilities in terms of reduction in the frequency and severity of challenging behaviors.

Study Limitations

The findings of this study should be interpreted with caution due to some limitations. First, due to the lengthy process at Shafallah Center to gain access to participants, survey data collection was delayed toward the last week of the end of school year. This affected the acquisition of a number of participants with the different subgroups. More specifically, the number of support services professionals (one occupational therapist, two art teachers, and one physical education teacher) was very low (n = 4; 2%) as most of the staff were unavailable and has already left the center and begun their summer vacation. Second, as participation in this study was entirely voluntary, some of the participants opted not to participate mostly because they were busy with end of school year activities. Lastly, the procedure for selection of the BIPs for technical analysis may not be a representation of a random sampling. Due to the Shafallah Center confidentiality protocols, the researcher did not have a direct access to the selection process, and had to rely on someone else's random selection. Accordingly, these limitations can be addressed in future research replications of this study.

CONCLUSION

The present study is the first to explore FBA practices in AE setting and the Continuing Professional Development (CPD) needs in FBA and positive behavior interventions in Qatar. The overall findings of this study resonate with previous and recent research in that conducting valid FBAs and addressing the behavioral needs of students with disabilities continues to be a challenge for instructional and clinical professionals (Beam & Mueller, 2017; Blood & Neel, 2007; Cook et al., 2007; Gable, et al., 2012; Killu, Weber, Derby, & Barretto, 2006; Loman & Horner, 2014; Pindiprolu, Peterson, & Berglof, 2007; Quesenberry, Hemmeter, & Ostrosky, 2011; Van Acker, Boreson, Gable, & Potterton, 2005; Walker, 2017). Despite the noted study limitations, the results of the study provide a data base for the development of a data-driven CPD strategy for professionals working at Shafallah Center to improve their knowledge and skills in FBA and positive behavior interventions. Last of all, the study lend support to the value of evaluating the CPD needs of special educators and paraeducators in evidence-based positive behavior interventions and their preferred method of training to support positive behavioral outcomes for students with challenging behaviors.

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Appendices

Appendix A

The Special Education In-Services Needs Assessment

The Special Education In-Service Needs Assessment

Considering your current work, and your previous experience, please indicate with a check on the **left side** of the table, **your own personal need** for training in each of the following areas. On the **right side** of the table indicate your perception of the needs of your **colleagues** in these areas.

Section 1:

	Your Training Needs					**Your Colleagues' Training Needs**			
	None	Low	Moderate	High		None	Low	Moderate	High
1					Assistive technology use for children with disabilities				
2					Early childhood intervention for children with disabilities				
3					Effective teaching procedures for children with disabilities				
4					Effective collaboration skills with parents and teachers				
5					IEP (Individual Education Plan) development				
6					Inclusion strategies				
7					Intervention for behavior problems				
8					Functional behavioral assessment				
9					Restraint procedures				
10					Positive and negative reinforcement strategies				
11					Transition services				
12					Other: (Please specify)				

Section 2:
Please indicate your current skill level in each of the following areas:

Skill Level

	None	Low	Moderate	High	
13					Interviewing caregivers regarding behavioral problems
14					Defining problem behaviors such that they can be observed and quantified
15					Recording procedures for measuring problem behaviors
16					Predicting problem behavior based on observations
17					Analyzing observational data (e.g. frequency, duration, and time sample) to determine purpose Of problem behaviors
18					Developing intervention plans to decrease problem behavior and/or increase desired behaviors
19					Conducting ongoing assessment of changes in behavior due to intervention
20					Hypothesis testing of the purpose of problem behavior and its relationship to the environment
21					Other specific skills not listed: (please specify)

Section 3:

Please indicate your preferred method of in-service delivery by checking the box. **Mark** all that apply. If you Mark more than one mode of delivery, rank order your top three choices, with (1) indicating your top choice.

_____ □ University course
_____ □ Two way satellite transmission
_____ □ Cooperative work group at center site
_____ □ Series of brief (e.g. 2 hours) workshops
_____ □ Web based course/activities
_____ □ CD-ROM materials
_____ □ Videotapes
_____ □ Books and other written materials
_____ □ All day workshop
_____ □ Other (specify) _____

What do you consider to be the most highly needed area(s) of training for staff working with children with disabilities in your center?

_____
_____

Appendix B

Positive Behavior Supports Implementation Survey

Positive Behavior Supports Implementation Survey ©

1. On a scale of 1 to 7 (with 1 representing least difficult and 7 representing most difficult) please indicate how difficult you found each item below during the implementation of Positive Behavior Supports (PBS) in your center:

least difficult **1 2 3 4 5 6 7** most difficult

Skills	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Understanding the basic fundamental principles of positive behavior supports as defined from the literature							
Conducting functional behavioral assessments							
Collecting and recording data							
Using graphs to represent data							
Data interpretation (trend analysis)							
Formulating hypothesis using functional assessment data							
Techniques	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Use of reinforcement to increase desired behavior							
Use of curriculum modifications to prevent challenging behavior							
Using instructional antecedent management as a means of preventing challenging behavior							
Teaching of alternative/replacement behaviors							
Use of observations as a data collection procedure							
Designing of behavior support plans							
Implementing behavior interventions							
Evaluating behavior interventions							
Shared Values	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Using team based approach in conducting functional behavioral assessments and designing behavior support plans							
Getting support from administration							
Collaborating with family as partners in the design and delivery of PBS							
Raising awareness of PBS in the center							
Other areas	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Understanding technical terminology in PBS literature							
Large class sizes							

Time constraints							
Availability of resources to teachers							

2. Please indicate, using a check, whether you used the following items during the implementation of PBS in your center/classroom.

	Yes	**No**
Structured interviews		
Scatter plot		
Observational recording		
Frequency count		
Using a variety of data collection methods as part of the functional behavioral assessment process		

Use the space provided below to answer Questions 3-5. You may use the back of this form if you need more space.

3. What other problems did you encounter during the PBS intervention process?

4. In what areas would you require technical assistance?

5. If you were to redo the implementation of PBS in your school/classroom, what would you do differently?

Appendix C

Participant's Demographic Survey

Participant's Demographic Survey

University of Oklahoma

The purpose of this survey is to learn more about you, your work with young children with disabilities, and your work responsibilities. All information will be kept completely confidential. None of the information you share will ever be reported individually about you to your unit or center.

Instruction:

- **This survey consists of two sections about you and the children with disabilities you work with at the center.**
- **For each item, please choose the best answer unless otherwise specified.**

Section 1: About You

1. **What is your gender?**
    a. Male
    a. Female

2. **What is your nationality?**
    a. Qatari
    b. Non-Qatari (please specify) _____

3. **What is your age?**
    a. 20 years old or younger
    b. 21 - 30 years old
    c. 31 - 40 years old
    d. 41 - 50 years old
    e. 51 - 60 years old
    f. Older than 60 years old

4. **In what role are you employed at your current job?**
    a. Special Education Teacher
    b. Para-educator (Teacher's assistant)
    c. Psychologist
    d. Other Support professionals (please specify) _____

5. **What is your highest educational degree? Please specify the discipline or subject area of your degree.**
    a. High School Diploma
    b. Associate Degree (2-3 years); Discipline: _____
    c. Bachelor's Degree; Discipline: _____
    d. Master's Degree; Discipline: _____

e. Doctoral Degree; Discipline: _____

6. **Did any of your degree or study program involve training in working specifically with <u>children with problem behaviors</u>?**
    a. No
    b. Yes

7. **Did any of your degree or study program involve training in Positive Behavior Support (PBS)?**
    a. No
    b. Yes

8. **How many years of experience do you have?**
    a. Less than one year
    b. 1-5 years
    c. 5-10 years
    d. 10-15 years
    e. 15-20 years
    f. More than 20 years (please specify) _____

9. **Are all of your years of experience in Qatar only?**
    a. Yes
    b. No

10. **Think about all your professional education and training, please indicate to what extent do you feel adequately prepared to <u>work with children with problem behaviors</u>?**
    a. Extremely well prepared
    b. Well prepared
    c. Somewhat prepared

d. Not at all prepared

11. How familiar are you with the term "Functional Behavioral Assessment"?

a. I am not familiar with this term at all
b. I have heard of this term, but could not offer an educated definition
c. I could define this term, but could not describe when and why a functional behavioral assessment should be implemented
d. I am very familiar with functional behavioral assessments, as they are frequently discussed and/or implemented at my place of work

Section 2: Your Students

12. Think of all your current student caseload. How many children do you work with per day?

a. Less than 6 children
b. Between 6-10 children
c. Between 11-15 children
d. Between 16-20 children
e. More than 20 children (please specify) _____

13. About how many of these students are children with problem behaviors?

a. Less than 50%
b. More than 50%
c. Almost all
d. I only work with children with problem behaviors

14. What is the age range for the children you work with at your work?

a. Early intervention (3 to 6years) only
b. School-age (older than 6 years) only
c. Children of all ages (3 to 18 years old)
d. Other: (please specify) _____

15. Which of the following are included in your caseload of children that you currently work with?

a. Children with all type of disabilities.
b. Children with all type of disabilities except hearing disability
c. Only children with behavioral/emotional disorders only (including autism spectrum disorder)
d. Only children with intellectual disability (including Down's syndrome)
e. Only children with specific learning disability
f. Only children with speech or language impairment
g. Only children with developmental disabilities (i.e. Cerebral palsy, muscular dystrophy)
h. Only children with multiple disability

16. Please indicate which of the following behaviors are exhibited by the children you work with. <u>Please circle all that apply</u>.

a. Defiance and non-compliance(refusing to follow directions, not participating in required activities, challenging authority, purposefully ignoring rules)
b. Destruction(damaging property, intentionally breaking things, tearing up books or other material, breaking classroom equipment)
c. Disruption (interfering with the normal flow of activities, interrupting instruction or group activities)
d. Physical aggression (Physically attacking another person, hitting, kicking, fighting)
e. Self-injury (Causing physical damage to oneself, self-hitting, self-biting)
f. Social withdrawal (reluctance to participate in normal activities, avoid interpersonal contacts, does not like to participate in typical classroom or recreational activities with other students)

g. Socially inappropriate behaviors (engage in unacceptable behavior, making inappropriate sounds, talking too loud, talking about an inappropriate subject, making offensive gestures)
h. Stereotype behaviors (engage in repetitive acts, hand flapping, spinning)
i. Verbal aggression (verbally attacking other students, taunting, name calling, threatening)

17. Please write any other comments you wish to add about students with challenging behaviors.

Appendix D

FBAs/BIPs Analysis Rating Scale

NATIONAL FUNCTIONAL BEHAVIORAL ASSESSMENT PROJECT

FBA/BPI Identification Number: _____

THE FUNCTIONAL ASSESSMENT OF BEHAVIOR

SOURCES OF DATA EXAMINED:
Please indicate sources of information used and documented in the assessment.

STUDENT RECORDS: ___ NO ____ YES

– IF YES, PLEASE SPECIFY WHICH RECORDS WERE USED

___ Social History
____ Speech & Language Assessment
____ Previous FBA or BIP
___ Psychological
___ Previously collected behavioral data
____ I.E.P.
___ Medical Records
___ OT/PT Assessment
____ Anecdotal Notes
___ Other_____
___ Other_____

INTERVIEWS WITH SIGNIFICANT OTHERS: ___ NO ___ YES

– IF YES, SPECIFY WITH WHOM THE INTERVIEW(S) WERE HELD

____ Mother
____ Father
____ Step mother
____ Step father

___Current teacher _____
___Current teacher _____

___ Previous teacher _____
___ Previous teacher _____

____ Other relative _____
____ Other relative _____

____ Target student

___ Other significant adult _____
___ Other significant adult _____

____ Other student (peer)

____ Other _____

RATING SCALES OR CHECKLISTS: ___ NO ___ YES

– IF YES, PLEASE SPECIFY MEASURE AND INFORMANT

____	_____	_____
	Name of Scale or Checklist	Informant
____	_____	_____
	Name of Scale or Checklist	Informant
____	_____	_____
	Name of Scale or Checklist	Informant
____	_____	_____
	Name of Scale or Checklist	Informant

EXAMINATION OF STUDENT WORK OR OTHER PERMANENT PRODUCTS:
___ NO ___ YES

– IF YES, PLEASE SPECIFY SOURCE

___ Systematic error analysis of student work
___ Visual inspection of student work
___ Other _____
___ Other _____

DIRECT OBSERVATION OF STUDENT BEHAVIOR: ___ NO ___ YES

– IF YES, PLEASE SPECIFY THE FOLLOWING:

___ Employed non-systematic data collection (e.g., Anecdotal notes, ABC analysis sheets)

___ Employed systematic data collection (e.g., use specific behavioral codes and data collection procedures)

DATA WERE COLLECTED:

___ Across settings (e.g., various classrooms, cafeteria, playground)
Number of settings____

___ Across persons (e.g., various teachers, parents)
Number of individuals__

___ Across behaviors (e.g., multiple target behaviors)
Number of behaviors__

WHAT DIMENSIONS OF THE BEHAVIOR WERE CONSIDERED IMPORTANT

___ Data were collected on the frequency of the target behavior

___ Data were collected on the duration of the target behavior

___ Data were collected on the latency of the target behavior

___ Data were collected on the intensity or magnitude of the target behavior

___ Data were collected on the locus of the target behavior

___ Data were collected on the topography of the target behavior

___ Data were collected on teacher behavior – As an Antecedent _____

– As a Consequence _____

___ Data were collected on peer behavior – As an Antecedent _____

– As a Consequence _____

___ Data were collected on setting events impacting behavior

THE TARGET BEHAVIOR:

(Rate the following where N/A = Not Applicable, NS = Not Specified, 1 = Weak or Vague Example and 5 = Quality Example - Circle your rating).

The target behavior is clearly defined with an operational definition.	N/A	NS	1	2	3	4	5
If necessary, a clear response definition was provided.	N/A	NS	1	2	3	4	5
The target behavior is a single behavior or clearly related class of behaviors.	N/A	NS	1	2	3	4	5
Data are provided to clearly establish the seriousness of the target behavior (e.g., social comparison, frequency, or rate of the behavior)	N/A	NS	1	2	3	4	5

HYPOTHESES RELATED TO THE FUNCTION OF THE TARGET BEHAVIOR:

(Rate the following where N/A = Not Applicable, NS = Not Specified, 1 = Weak or Vague Example and 5 = Quality Example - Circle your rating).

One or more hypotheses are specifically identified as the function served by the target behavior. N/A NS 1 2 3 4 5

Adequate data were collected to verify or reject the proposed hypotheses (e.g. data were triangulated). N/A NS 1 2 3 4 5

The hypothesized function was verified (e.g. tested through a modification of the context, curriculum, etc. prior to development of behavior intervention plan). N/A NS 1 2 3 4 5

Consideration was given to the origin of the target behavior (e.g. the behavior reflects a skill deficit vs. a performance deficit). N/A NS 1 2 3 4 5

Data indicated the following impacted (occasioned or reinforced) the display of the target behavior:

_____ Setting events ____ Peer behavior ____ Teacher behavior
_____ The curriculum ____ Medical or health issues
_____ Other _____
_____ Other _____

IDENTIFICATION OF AN ALTERNATIVE BEHAVIOR:

(Rate the following where N/A = Not Applicable, NS = Not Specified, 1 = Weak or Vague Example and 5 = Quality Example - Circle your rating).

Data were collected that explored the existence of alternative behaviors that serve the same function as the target behavior. N/A NS 1 2 3 4 5

The alternative behavior requires a similar level of effort (or less) on the part of the student as the target behavior. N/A NS 1 2 3 4 5

The alternative behavior is likely to be a realistic

response for the student given their social context (e.g., a behavior the student is likely to adopt). N/A NS 1 2 3 4 5

THE BEHAVIOR INTERVENTION PLAN

PREVIOUS INTERVENTIONS ATTEMPTED:

(Rate the following where N/A = Not Applicable, NS = Not Specified, 1 = Weak or Vague Example and 5 = Quality Example - Circle your rating).

Previous efforts to prevent and/or intervene with the target behavior are specified. N/A NS 1 2 3 4 5

KEY COMPONENTS IN THE BEHAVIORAL INTERVENTION PLAN:

(Rate the following where N/A = Not Applicable, NS = Not Specified, 1 = Weak or Vague Example and 5 = Quality Example - Circle your rating).

A clear and specific behavior intervention plan is provided (e.g., the desired response designed to reduce the target behavior is delineated). N/A NS 1 2 3 4 5

The behavior intervention plan specifies the reinforcement and/or support of the alternative behavior. N/A NS 1 2 3 4 5

The alternative behavior results in or is reinforced through the delivery of a consequence related to the function of the target behavior. N/A NS 1 2 3 4 5

The intervention plan attempts to reduce the target behavior through the use of: (CHECK ALL THAT APPLY).

____ An aversive (punishment) _____

Please indicate the nature of the aversive

____ Extinction (planned ignoring)

____ Differential Reinforcement of Other behavior (DRO)

____ Differential Reinforcement of an Alternative behavior (DRA)

____ Differential Reinforcement of an Incompatible behavior (DRI)

____ Differential Reinforcement of Low rate behavior (DRL)

____ Differential Reinforcement of High rate behavior (DRH)

SUPPORTS AND ACCOMMODATIONS:

(Rate the following where N/A = Not Applicable, NS = Not Specified, 1 = Weak or Vague Example and 5 = Quality Example - Circle your rating).

The BIP identifies clear and specific supports for modifications in:

____ Setting events	N/A	NS	1	2	3	4	5
____ Peer behavior	N/A	NS	1	2	3	4	5
____ Teacher behavior	N/A	NS	1	2	3	4	5
____ The curriculum	N/A	NS	1	2	3	4	5
____ Other _____	N/A	NS	1	2	3	4	5

Please Specify

MONITORING AND EVALUATION OF THE BEHAVIORAL INTERVENTION PLAN:

(Rate the following where N/A = Not Applicable, NS = Not Specified, 1 = Weak or Vague Example and 5 = Quality Example - Circle your rating).

A clear plan to monitor the BIP is specified.	N/A	NS	1	2	3	4	5
The person (or people) responsible for monitoring the BIP is (are) specified.	N/A	NS	1	2	3	4	5
A plan is specified for monitoring the:							
____ Integrity of the BIP implementation	N/A	NS	1	2	3	4	5
____ Impact of the BIP on the target behavior	N/A	NS	1	2	3	4	5
____ Impact of the BIP on the alternative behavior	N/A	NS	1	2	3	4	5
A plan specified to monitor the maintenance of the desired behavior change.	N/A	NS	1	2	3	4	5

A plan specified to monitor the generalization of the desired behavior change across:

____ Settings (e.g., various classes, home)	N/A	NS	1	2	3	4	5
____ People (e.g., various teachers, parents)	N/A	NS	1	2	3	4	5

SUMMARY COMMENTS:

Identification of the Target Behavior:

Exploring the Function of the Behavior:

Identification of a realistic Alternative Behavior:

The development of the Behavior Intervention Plan:

Appendix E

Permission Letter

Shafallah Center for Children with Special Needs

الشفاء
SHAFALLAH
مركز للأطفال ذوي الإحتياجات الخاصة
Center for Children with Special Needs

May 26, 2010

Najwa Al-Hadad
University of Oklahoma
College of Education
Department of Educational Psychology
820 Van Vleet Oval
Norman, OK 73019

Dear Miss Al-Hadad,

This letter is to serve as an official notification of Shafallah Center for Children with Special Needs approval for you to conduct your doctoral dissertation study on Current Practices and School-based Personnel's Professional Development Needs in Functional Behavior Assessment in Qatar.

Sincerely,

Sameera Al-Qasimi
Managing Director

مركز للأطفال ذوي الاحتياجات الخاصة
الشفاء
SHAFALLAH
Center for Children with Special Needs

هاتف: ٦٦٦٦ ٤٩٥ (٩٧٤) ـ فاكس: ٦٦٩٩ ٤٩٥ (٩٧٤) ـ ص.ب. ٤٢٥١ الدوحة، دولة قطر
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Appendix F

Information Sheet

University of Oklahoma

Institutional Review Board

Information Sheet for Consent to Participate in a Research Study

My name is Najwa AI-Hadad, and I am a doctoral student in the Department of Educational Psychology at the University of the Oklahoma. I am requesting that you volunteer to participate in a research study titled " Current Practices and School-based Personnel's Professional Development Needs in Functional Behavior Assessment in Qatar ". You were selected as a possible participant because you are a direct service provider working with children challenging behaviors.

Please read this information sheet and contact me to ask any questions that you may have before agreeing to take part in this study.

Purpose of the Research Study

The primary purpose of this study is to examine the degree to which Functional Behavioral Assessments (FBA) and Behavior Intervention Plans (BPI) are being implemented in Qatar and to evaluate the discrepancy of current practices to recommended practices in FBA. The second purpose is to shed light on issues related to professional development needs of school personnel, mainly special educators and support staff, in FBA and behavior intervention strategies.

Procedures

If you agree to be in this study, you will be asked to do the following:

- Complete the *Special Education In-service Needs Assessment*. This scale will ask you to rate your professional development needs and your colleagues' professional needs.

- Complete the *Positive Behavior Supports Implementation Survey.* This survey will ask you to rate your knowledge and skills in the area of functional behavioral analysis and behavior intervention plan.

- Complete a *Participant Demographic Survey*. The demographic survey will ask you basic descriptive information about you, your family, the students you work with in your program, and the services you provide to children with challenging behaviors.

Risks and Benefits of Being in the Study:

There are no foreseeable risks involved in participation in this study beyond those present in routine daily life. However, it is possible that talking about your experience with the early intervention services and programs may bring up sensitive issues that make you feel uncomfortable. You can contact the researcher for local resources if you want to talk to someone other than your family or the researcher. If you feel any question is too personal or sensitive, you can decline to answer without any penalty.

Although there are no direct benefits for you as a participant, your participation in this study is very important. The study is valuable in terms of improving future services for children with challenging behaviors in Qatar.

Compensation

You will not be reimbursed for you time and participation in this study.

Voluntary Nature of the Study

Participation in this study is voluntary. If you withdraw or decline participation, you will not be penalized or lose benefits or services unrelated to the study. If you decide to participate, you may decline to answer any question and may choose to withdraw at any time.

Length of Participation:

Each measure will require 15 minutes to complete making your total length of participation 45 minutes.

Confidentiality

The records of this study will be kept private and your supervisor will not have access to your responses. In published reports, there will be no information included that will make it possible to identify you without your permission. Research records will be stored securely, and only approved researchers will have access to the records.

Contacts and Questions

If you have concerns, questions, or complaints about the research, you can contact the researcher conducting this study, Najwa Al-Hadad, at 974-5588-3534 or najwaa@ou.edu, or Dr. David Lovett, Ph.D., at (405) 613-0197 or dlovett@ou.edu.

If you have any questions about your rights as a research participant, concerns, or complaints about the research and wish to talk to someone other than individuals on the research team or if you cannot reach the research team, you may contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at 405-325-8110 or irb@ou.edu.

You will be given a copy of this information to keep for your records. By completing and returning this questionnaire, I am agreeing to participate in this study.

Appendix G

Permission E-mails

Positive Behavior Supports Implementation Survey

From: Morgan Chitiyo <mchitiyo@siu.edu>
Sent: Wednesday, October 7, 2009 11:14:48 AM
To: Al-Hadad, Najwa K.
Subject: RE: Request a copy of a survey

Najwa Al-Hadad,

Please find attached the instrument you requested. Good luck with your research,

Morgan

Morgan Chitiyo, PhD., BCBA-D.

Assistant Professor

Editor, *Journal of the International Association of Special Education*

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