Effective Paraeducator Implementation of Behavior Intervention Plans for Students with Autism Spectrum Disorder: An Exploration of Training and Support Needs

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Effective Paraeducator Implementation of Behavior Intervention Plans for Students with Autism Spectrum Disorder: An Exploration of Training and Support Needs

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Effective Paraeducator Implementation of Behavior Intervention Plans for Students with Autism Spectrum Disorder: An Exploration of Training and Support Needs

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I would like to acknowledge the educators in my life who knew the value of schooling, and attained an education despite barriers of sex, race, and income. Thanks Ida Nottle, my grandma who came top in a state exam, won a scholarship to a private school, and was educated in how to be a good housewife because she was a woman. Thanks Dr. Frank Bautista, Professor of Early Childhood Education at Sacramento University, who every Memorial Day laid flowers on the graves of the miners who helped pay for his education.

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ABSTRACT

Effective Paraeducator Implementation of Behavior Intervention Plans for Students with Autism Spectrum Disorder: An Exploration of Training and Support Needs

by Kristen Nottle-Powell

Purpose: The purpose of this convergent mixed methods study was to describe the training and support paraeducators who work with students with autism spectrum disorder received as they implemented behavior intervention plans based on the Browning-Wright, Mayer, and Saren model. Additionally, this study sought to describe the training and challenges experienced by paraeducators, as well as their training and support recommendations for paraeducators who work with students with autism spectrum disorder with a behavior intervention plan.

Methodology: A convergent mixed methods study was used to describe the training and support experiences, challenges, and recommendations, as described by paraeducators responsible for implementing behavior intervention plans for students with autism spectrum disorder. In-person surveys were administered to 12 volunteer participants, followed by 11 in-depth interviews with paraeducators who volunteered to participate in the second phase of the data collection process.

Findings: Paraeducators who worked with students with autism disorder did not receive formal training, but instead experienced inconsistent and ineffective informal training. Paraeducators also experienced inconsistent support, communication, and teamwork from school site staff. Additionally, paraeducators recommended training in behavior intervention plans and autism utilizing training formats of brief workshops, cooperative work groups, in-classroom coaching, and web-based courses.
**Conclusions:** Paraeducators, without formal training and consistent support from all school site staff, including being given a voice in student decision-making processes, cannot be effective in implementing behavior intervention plans with fidelity.

Additionally, paraeducators do not receive formal training in evidenced-based practices necessary for fidelity of implementation of behavior intervention plans.

**Recommendation:** It is recommended to replicate this convergent mixed methods study, but from the perspective of special education teachers of supporting and training paraeducators who implement behavior intervention plans for students with autism spectrum disorder.
# TABLE OF CONTENTS

## CHAPTER I: INTRODUCTION

- Background ........................................................................................................ 1
- Definition of Paraeducator .............................................................................. 3
- Paraeducator Role ............................................................................................ 4
- Paraeducator Training, Qualifications, and Professional Development ........ 5
- Autism ............................................................................................................... 6
- Statement of the Research Problem ................................................................. 13
- Purpose Statement ............................................................................................ 16
- Research Questions .......................................................................................... 17
- Significance of the Problem ............................................................................. 17
- Definitions ......................................................................................................... 19
- Delimitations .................................................................................................... 22
- Organization of the Study ............................................................................... 23

## CHAPTER II: REVIEW OF THE LITERATURE

- Legislation and Special Education ................................................................. 24
- Brown v. Board of Education .......................................................................... 24
- Free and Appropriate Public Education .......................................................... 25
- Case Law: Functional Behavior Assessments and Behavior Intervention Plans 33
- Education, IDEA, and Evidenced-Based Practices ......................................... 34
- Paraeducator Standards .................................................................................. 36
- Professional Development of Teachers and Paraeducators ......................... 37
- Autism .............................................................................................................. 38
- Autism and Inclusion ....................................................................................... 39
- Autism and Evidenced-Based Instructional Strategies ...................................... 40
- Barriers to Teacher Use of Evidenced Based Practices ................................... 44
- Functional Behavior Assessment-Based Behavior Intervention Plans .......... 46
- Behavior Intervention Plans .......................................................................... 47
- Behavior Intervention Plan Settings ................................................................. 49
- Behavior Intervention Plan Instructional Strategies .......................................... 51
- Ongoing Paraeducator Supports ..................................................................... 52
- Paraeducators .................................................................................................. 54
- Paraeducator Training and Supervision ........................................................... 55
- Paraeducator Supports .................................................................................... 57
- Challenges to Effective Paraeducator Training and Support ......................... 59
- Effective training components for paraeducators .......................................... 60
- Paraeducator Training to Improve Fidelity of BIP Implementation ............... 65
- Conclusions and Research Gap ....................................................................... 67

## CHAPTER III: METHODOLOGY

- Purpose Statement ........................................................................................... 69
- Research Questions .......................................................................................... 69
- Research Design ............................................................................................... 69
- Quantitative Research Design ......................................................................... 70
- Qualitative Research Design ........................................................................... 71
Qualitative Research Design ........................................................................................................ 72
Population ...................................................................................................................................... 73
Target Population .......................................................................................................................... 73
Sample ........................................................................................................................................... 74
Quantitative Sampling ..................................................................................................................... 76
Qualitative Sampling ...................................................................................................................... 77
Instrumentation ............................................................................................................................. 77
Quantitative Instrumentation .......................................................................................................... 78
Qualitative Instrument .................................................................................................................... 80
Participant Interview Guide ............................................................................................................ 80
Researcher as an Instrument ........................................................................................................... 81
Reliability and Validity .................................................................................................................... 82
Field Testing .................................................................................................................................. 83
Data Collection ............................................................................................................................... 84
Quantitative Data Collection .......................................................................................................... 85
Qualitative Data Collection ............................................................................................................ 86
Data Analysis .................................................................................................................................. 87
Quantitative Data Analysis ............................................................................................................. 87
Qualitative Data Analysis ............................................................................................................... 88
Limitations ....................................................................................................................................... 89
Summary .......................................................................................................................................... 90

CHAPTER IV: RESEARCH, DATA COLLECTION, AND FINDINGS ............................................. 91
Purpose Statement ............................................................................................................................ 91
Research Questions .......................................................................................................................... 92
Research Methods and Data Collection Procedures ....................................................................... 92
Population ........................................................................................................................................ 93
Sample ............................................................................................................................................ 93
Demographic Data .......................................................................................................................... 94
Presentation and Analysis of Data .................................................................................................... 95
Findings for Research Question 1 ...................................................................................................... 95
Findings for Research Question 2 ..................................................................................................... 103
Findings for Research Question 3 ..................................................................................................... 111
Findings for Research Question 4 ..................................................................................................... 118
Summary .......................................................................................................................................... 125

CHAPTER V: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS ......................... 127
Major Findings ............................................................................................................................... 127
Unexpected Findings ....................................................................................................................... 134
Conclusions ..................................................................................................................................... 136
Implications for Action .................................................................................................................... 140
Recommendations for Further Research ....................................................................................... 145
Concluding Remarks and Reflections ............................................................................................. 147

REFERENCES ............................................................................................................................... 149

APPENDICES ............................................................................................................................... 165
LIST OF TABLES

Table 1. Participant Demographics................................................................. 94
Table 2. General Training Experiences of 12 Paraeducators................................. 96
Table 3. General Training Experiences of 12 Paraeducators................................ 97
Table 4. Major Themes for Paraeducator Training Experiences ................................ 98
Table 5. Degree of Support for Six Components.................................................. 103
Table 6. Major Themes for Paraeducator Support Experiences ............................... 104
Table 7. Major Themes for Paraeducator Training Challenges ............................. 112
Table 8. Paraeducator Preferred Method of Training Delivery ............................... 119
Table 9. Top Three Choices of Paraeducator Preferred Method Training Delivery ..... 120
Table 10. Major Themes for Paraeducator Training Recommendations .................. 121
Table 11. Themes, Frequency, and Percentage of Responses .............................. 126
LIST OF FIGURES

Figure 1. Organization of this Mixed-Methods Study. ................................................... 71

Figure 2. Population, Target Population, and Sample for this Study. .......................... 76
CHAPTER I: INTRODUCTION

Equality of access to a free and appropriate public education is a civil rights issue spanning centuries of debate, litigation, and media attention. In 1785, President John Adams advocated for free schools so all children, not simply the wealthy, could experience the benefits of a formal education (Adams, Little, & Brown, 1851). By the middle of the 20th century, schooling was free but lacked equality of access with students of color forced to attend separate and inferior schools compared to their Caucasian peers. In 1954, in the case of Brown v. Board of Education, Chief Justice Warren ended school segregation and, in the process, created a legal pathway for equality of access to public education for students with disabilities (Yell, 2016).

Public Law 94-142, known as the Education for All Handicapped Children Act of 1975, was enacted to ensure students with disabilities, like students of color before them, similarly had equality of access to a free and appropriate public education. Fast forward 40+ years into the 21st century and exclusionary educational practices continue despite procedural safeguards mandated by the Individuals with Disabilities Education Acts (IDEA) of 1997 and 2004. Students with disabilities, including those with autism spectrum disorder, are two times more likely to be suspended than their typically developing peers, represent one-quarter of students arrested and referred to law enforcement, and represent 58% of students placed in seclusion although they are only 12% of the overall student population (U.S. Department of Education [ED], 2016). Although race and disability are no longer overtly used as reasons for excluding students from public education, challenging behaviors such as those exhibited by students with autism spectrum disorder remain a reason for exclusion.
Students with autism spectrum disorder are characterized by impaired social and communication skills, paired with atypical responses to environmental triggers (Butter, Wynn, & Mulick, 2003). Challenging behaviors exhibited as a result of autism spectrum disorder include aggression, self-injury, destruction of property, limited communication and social problem-solving skills, task refusal, and tantrums (Beighley et al., 2013; Krezmien, Travers, & Camacho, 2017). As a direct consequence of behavioral challenges associated with students with autism spectrum disorder, many experience limited opportunities to be educated alongside their typically developing peers in a general education classroom (Kurth, 2015).

Today, IDEA requires students with autism spectrum disorder to be educated in the least restrictive environment and, when possible, alongside their typically developing peers in a general education classroom. This practice, known as inclusion, can be challenging as students with autism spectrum disorder have complex social, emotional, and behavioral needs; their numbers in schools tripled over the past decade yet there are not enough qualified special education teachers to meet their unique needs (Beighley et al., 2013; Koegel, Koegel, Ashbaugh, & Bradshaw, 2014; Poucher, 2015; Rispoli, Neely, Lang, & Ganz, 2011; Serna et al., 2016; Symes & Humphrey, 2011). Consequently, school districts resorted to hiring additional paraeducators to fill the gap (Serna et al., 2015).

Hiring additional paraeducators to meet the unique needs of students with autism spectrum disorder in the general education setting, in place of qualified special education teachers, is of great concern. Although No Child Left Behind (NCLB), IDEA, and the Every Student Succeeds Act (ESSA) set specific standards regarding the training,
qualifications, and ongoing professional development requirements for educators who work with students with disabilities, the number of unqualified special education teachers is greater than those working in general education (ED, 2009), and training opportunities afforded paraeducators is inadequate (Giangreco, Suter, & Doyle, 2010). Such data are inherently problematic, as the most disadvantaged population in education, students with disabilities and autism spectrum disorder, are being educated by the least qualified and trained personnel (Giangreco & Broer, 2005; V. L. Walker & Snell, 2017). Consequently, providing additional research and insight into this critical population and the support they need is useful.

**Background**

Today, paraeducators are at the forefront of educational services for students with disabilities, including those with autism spectrum disorder, as a direct consequence of expanding special education programs, challenges associated with educating students with disabilities in general education settings, and shortages of qualified special education teachers (Giangreco, Suter, & Hurley, 2011). From a historical perspective, paraeducator roles changed significantly from performing mainly clerical, monitoring, and housekeeping tasks in the 1950s to assuming responsibility for the delivery of lessons for students with disabilities under the supervision and guidance of a credentialed teacher (Pickett, Likins, & Wallace, 2003). Now more than ever paraeducators are hired in increasing numbers so schools can meet the demand for individualized services for students with disabilities, as mandated by IDEA.
**Definition of Paraeducator**

Paraeducators are defined as, “A school employee who works alongside and under the supervision of a licensed or certificated educator to support and assist in providing instructional and other services to children, youth and their families” (National Education Association [NEA], 2005, p. 5). Within the fields of education and research, a variety of terms are used to refer to such personnel, including teacher aide, teacher assistant, instructional assistant, instructional aide, and paraprofessional. Regardless of the terminology used, the work of paraeducators in schools is central to education reform initiatives, particularly as they relate to improving learning outcomes for students with special needs (Brock & Carter, 2013; Deardorff, Glasenapp, Schalock, & Udell, 2007).

**Paraeducator Role**

Educational reform initiatives, such as Title I and Head Start in the 1960s, the Education for all Handicapped Children Act in 1975, NCLB in 2001, the reauthorization of IDEA in 2004, and most recently ESSA in 2015, recognize the significant impact of paraeducators on learning programs for students with disabilities, which led to their roles becoming increasingly complex. Paraeducator roles range from performing clerical tasks, supervising students, delivering instruction, teaching personal care skills, and providing one-on-one support for students with disabilities in a general education setting, particularly those with behavioral challenges (Blacher & Rodriguez, 2007; Carter, O’Rourke, Sisco, & Pelsue, 2009; Giangreco & Broer, 2005; Hall, Grundon, Pope, & Romero, 2010). Their role differs from that of a teacher in that it is the teacher’s responsibility to plan lessons, introduce new concepts, and evaluate student progress, whereas paraeducators may only provide instruction when directly supervised. Although
federal legislation regarding the role of paraeducators is clear, the research literature highlights ongoing concerns with their utilization in schools. In a survey study conducted by Giangreco and Broer (2005) involving 737 educators, 70% of paraeducators planned and delivered lessons to students without teacher supervision. Such data are concerning given their limited training, qualifications, and lack of ongoing professional development opportunities provided by schools.

**Paraeducator Training, Qualifications, and Professional Development**

Over the past 20 years, several researchers delved deeply into the training, qualifications, and professional development needs of paraeducators working in the field of special education (Brock & Carter, 2013; Deardorff et al., 2007, Giangreco, Edelman, Luiselli, & MacFarland, 1997). One such researcher is Michael Giangreco, whose name is associated with over 20 years of collaborative research and 38 published articles on this important subject area. Giangreco, a professor at the University of Vermont and consultant to ED and the Center on Disability and Community Inclusion, consistently identifies the need for paraeducators to be appropriately trained and supervised so students with disabilities receive the full benefits of an inclusive education (Giangreco et al., 1997; Giangreco, Edelman, & Broer, 2001; Giangreco & Suter, 2015). Current barriers to effective utilization of paraeducators include: lack of special education teacher preparation in how to train and supervise paraeducators, lack of pre- and in-service trainings afforded paraeducators by school districts, and lack of clarity regarding what is the teacher’s versus paraeducator’s role and responsibilities when educating students with disabilities in the general education setting (Giangreco et al., 1997; Giangreco, Edelman, & Broer, 2001; Giangreco & Suter, 2015).
In the research literature, several studies addressed barriers to effective utilization of paraeducators in schools, and in particular, their training and support needs in relation to using evidenced-based practices (EBPs) with fidelity. Paraeducator utilization of EBPs, such as applied behavior analysis (ABA), behavior intervention plans (BIPs), and discrete trial training, is important as these teaching strategies were scientifically shown to be effective in improving student learning outcomes (Russo-Campisi, 2017). Brock and Carter (2013), in their systematic review of 13 studies, found empirical evidence confirming paraeducators, when appropriately trained, can implement EBPs with fidelity and hence achieve improved learning outcomes for students with disabilities. Similarly, in a systematic review of 12 studies, Rispoli et al. (2011) found paraeducators trained in EBPs for students with autism spectrum disorder were able to implement these practices with fidelity. However, Rispoli et al. (2011) also explained only six of the studies correlated the professional development intervention with increased student achievement data. Additionally, trialed training programs were delivered by researchers and not practitioners working in the field (Brock & Carter, 2013; Walker & Snell, 2017); consequently, little is known about how to translate such efficacy research on professional development into educator practice (Cook et al., 2012; Wright & Prescott, 2018).

**Autism**

Autism spectrum disorder is present at birth, usually detected by age three, and a lifelong condition with no known cure (Lovannone, Dunlap, Huber, & Kincaid, 2003; Stahmer, Collings, & Palinkas, 2005). Individuals with autism are characterized by deficits across three areas of development: communication, social interactions, and
environmental engagement (Butter et al., 2003; Lovannone et al., 2003; Siegel, 1999; Welton, Vakil, & Carasea, 2004). Deficits in communicative abilities include delayed language development, failure to respond to verbal cues, and echolalia. Impaired social interactions may take the form of a flat facial affect with limited eye contact, an unwillingness to engage in play with peers combined with a preference for being alone, and severe behavior tantrums. Environmental interactions are atypical and may include inappropriate attachment to objects, unusual adherence to routines, and stereotyped motor mannerisms such as hand flapping (Francke & Geist, 2003; Stuart, Flis, & Rinaldi, 2006).

In addition to severely impacting social and communicative development, autism may be co-morbid with a few other conditions such as intellectual disability, absence of functional language skills, sensory processing difficulties, and anxiety and depression (Butter et al., 2003; Nanclares, 2004; Stuart et al., 2006). Although behavioral traits indicative of autism were identified, how each person presents these is unique. Individual’s abilities range from mild to severely disabled, and consequently autism is specified as a spectrum disorder (Francke & Geist, 2004; Heflin & Simpson, 1998, as cited in Lovannone et al. 2003).

The number of students diagnosed with autism spectrum disorder tripled over the past decade (ED, 2016). Such rising numbers are often reported by researchers in the context of an increased need for expanded special education supports due to the complex communication, social, and behavioral excesses of students with autism spectrum disorder (Beighley et al., 2013; Koegel et al., 2014; Rispoli et al., 20011; Serna et al., 2016; Symes & Humphrey, 2011). Beighley et al. (2013) explained behavioral excess of students with autism spectrum disorder as “socially unacceptable, physically harmful, and
negatively affect quality of life, most notably by increasing the likelihood of psychotropic drug use and include aggression, stereotypy, self-injury, food selectivity and refusal, and tantrums” (p. 376). With more and more students with autism spectrum disorder receiving services in the general education setting, schools responded by hiring paraeducators to work as one-on-one aides to address their intensive behavioral learning needs (Serna et al., 2016).

Intensive behavioral needs, such as those exhibited by students with autism spectrum disorder, are best addressed using EBPs, as mandated by NCLB, IDEA, and ESSA. According to these legislative mandates, an instructional practice is evidenced-based if it is supported by peer-reviewed research that used an experimental design (Phillips, 2015; Russo-Campisis, 2017; Test, Kemp-Inman, Diegelmann, Hitt, & Bethune, 2015). Additionally, to be effective educators must be able to implement EBPs with fidelity in real-world settings and thus bridge the research to practice gap. Although EBPs are identified, little is understood regarding the challenges faced by educators in attempting to implement such practices with fidelity in their classrooms (Russo-Campisis, 2017). Examples of EBPs that meet this scientific gold standard include ABA, functional behavior assessments (FBAs), and their resultant BIPs (Wong et al., 2015).

**Applied behavior analysis.** ABA is primarily a behavioral approach to teaching students with autism, which is widely used in both private and public schools when providing intervention services. ABA programs are characterized by intensive early intervention of up to 40 hours a week and involve teacher directed, systematic instruction delivered one-on-one (Butter et al., 2003; Nanclares, 2004). Discrete trial training is an example of one behavioral approach utilized within an ABA program. Identified skills to
be addressed, such as social interaction, are sequenced into their component parts with each step in the process being explicitly taught using repeated lesson trials until mastery (Ingersoll & Schreibman, 2006; Paleo, 2005; Tung, 2005). Behavioral techniques such as contingent reinforcement, verbal cueing, prompting, shaping, and prompt fading are used to elicit target behaviors from the student (Paleo, 2005; Siegel, 1999). A core principal of ABA is to teach otherwise unengaged students with autism spectrum disorder new skills, which they can generalize and apply in a real-world context (Paleo, 2005).

**Functional behavioral assessment.** FBA is another behavioral approach enabling students with autism spectrum disorder to generalize acquired skills. FBA first became a federal mandate under IDEA of 1997 in response to students with disabilities being suspended and expelled from schools for inappropriate behavior (Cook et al., 2012; Walker & Snell, 2017). IDEA requires schools to conduct an FBA when student behavior impedes the learning of themselves or others (Cook et al., 2012; Crimmins & Farrell, 2006; J. D. Walker & Barry, 2017), and is defined as, “The process of gathering data from multiple sources to identify the antecedent and consequence events that predict and maintain problem behavior” (Crone, Hawken, & Bergstrom, 2007, p. 15). The purpose of a FBA is to identify the function of the student’s behavior (e.g., escape/avoid, obtain attention/tangible) through a process of systematic data collection and determine interventions for teaching replacement behaviors, which are then documented in the student’s BIP (J. D. Walker & Barry, 2017; Wheby & Kern, 2014).

**Behavior intervention plan.** A BIP is a focused, EBP intended to effect student behavior change through fidelity of the individual education plan (IEP) team’s implementation (Poucher, 2015; J. D. Walker & Barry, 2017). The student’s IEP team,
having identified the function of the behavior and environmental triggers through the FBA process, document EBPs to be utilized in proactively teaching the student appropriate replacement behaviors. A quality BIP, according to the *Behavior Intervention Plan-Quality Evaluation Scoring Guide* (Browning-Wright, Mayer, & Saren, 2013), is comprised of six key elements: (1) identifying the function the student’s behavior, (2) identifying environmental triggers for the behavior, (3) identifying staff behavioral and environmental changes that need to occur and the instructional strategies to teach new behaviors, (4) planning how replacement behaviors will be reinforced, (5) implementing reactive strategies among staff, and (6) coordinating and communicating among the EIP team regarding fidelity of BIP implementation. Although a number of research studies focused on improving the quality of BIPs written by teachers (Cook et al. 2012; Fallon, Zhang, & Kim, 2011; Kraemer, Cook, Browning-Wright, Mayer, & Wallace, 2008; Tarbox et al., 2013), limited studies examined fidelity of implementation linked to improved student behavior (Cook et al. 2012; Mouzakitis, Codd, & Tryon, 2015; V. L. Walker & Snell, 2017). Fewer studies examined paraeducator training and support in how to implement BIPs with fidelity (Hogan, Knez, & Khang, 2015; Madzharova, Sturmey, & Yoo, 2018; V. L. Walker & Snell, 2017).

**Teachers and behavior interventions for students with autism spectrum disorder.** Compounding the issue of limited studies regarding paraeducator fidelity of BIP implementation is a concern among researchers regarding the inadequate training and support educators receive on how to manage challenging student behaviors (Desrochers & Fallon, 2007, as cited in Fallon et al., 2011; Wehby & Kern, 2014). In a survey of 498 special education teachers, Hendrick (2011) found they received limited
training in important behavioral strategies, such as ABA, critical to working with students with autism spectrum disorder. Furthermore, in a nationwide survey of early intervention coordinators, Wise, Little, Holliman, Wise, and Wang (2010) found 89% reported a shortage of behavior therapists needed to provide autism spectrum disorder-related services for their clients. Consequently, schools often hire board certified behavior analysts to conduct assessments and develop comprehensive behavior treatment plans for students with autism spectrum disorder. However, implementation of resultant BIPs often fall to a one-on-one paraeducator hired by the school as a direct support for the student (Serna et al., 2015). Although ABA, FBAs, and BIPs are examples of EBPs proven to proactively address the complex academic, social, and behavioral needs of students with autism spectrum disorder, they are only effective when implemented with fidelity by educators.

Wong et al. (2015) reviewed 456 studies from which they identified 27 EBPs applicable for use with students with autism spectrum disorder. One such EBP is the use of ABA. ABA seeks to address the complex learning and behavioral needs of students with autism spectrum disorder through the development of an FBA, their resulting BIPs, and EBPs such as reinforcement schedules, extinction, prompt fading, task analysis, functional communication training, and pivotal response training. Simply identifying EBPs is not enough to ensure science translates into educator practice; Wong et al. (2015) stated, “The prospect of better outcomes, however, is couched on the need for translating scientific results into intervention practices that service providers may access and providing professional development and support for implementing the practices with fidelity” (p. 1964). The question remains, although BIPs are an EBP, are special
education teachers and the paraeducators they are responsible for training and supporting implementing BIPs with fidelity.

A few studies explored whether BIPs are implemented with fidelity by service providers in real-world settings as measured by improved student behaviors (Cook et al., 2012; Mouzakitis et al. 2015; V. L. Walker & Snell, 2017). Mouzakitis et al. (2015) noted, “Accurate implementation of individualized BIPs is a critical aspect of evidence-based practice” (p. 223). Cook et al. (2012) explored the relationship between high-quality BIPs containing EBPs and their implementation by behavior experts and special education teachers with students with disabilities. They found student behavior change occurred only in those instances where BIPs were implemented with fidelity. However, they also found 9% of above average rated BIPs were implemented with less than 50% fidelity by participants. This finding demonstrated how a well-written BIP is only half the solution and to improve student behaviors; educators must be able to implement BIPs with fidelity (Cook et al., 2012).

Studies investigating educator fidelity of BIP implementation in real-world settings primarily focused on teachers (Cook et al., 2012; Mouzakitis et al. 2015). To date, only three studies in the literature addressed how paraeducators working with students with autism spectrum disorder implement BIPs with fidelity in real-world settings. One study was conducted by Hogan et al. (2015) who found behavior skills training (BST) in the form of instructor model, rehearsal, and feedback to participants was successful in enabling paraeducators hired to work as one-on-one aides for students with autism spectrum disorder to improve their fidelity of BIP implementation. Although this study provided evidence of improved fidelity of BIP implementation by
paraeducators, data on student behavior change were not collected and therefore a causal link between professional development and impact on student learning was not established (Hogan et al., 2015). A study conducted by V. L. Walker and Snell (2017) sought to address this gap in the literature by measuring both the effect of paraeducator training on fidelity of BIP implementation and student behavior change; however, as paraeducator training was delivered by researchers, study results were limited and not generalizable to real-world settings. Finally, in a study by Madzharova et al. (2018), who worked intensely to train a paraeducator using in vivo modeling and feedback, found the paraeducator was able to reach mastery of BIP implementation within 60-90 minutes of instruction over the course of just two days.

Statement of the Research Problem

Although the numbers of school-aged students with disabilities remained relatively stable over the past decade, those diagnosed with autism spectrum disorder almost tripled (ED, 2016). Furthermore, due to the IDEA mandate students with disabilities are taught in the least restrictive environment, 62.6% of students with disabilities are placed in a general education classroom for most of their school day (ED, 2016). This expansion of special education services, as a direct consequence of state implementation of NCLB and the 2004 reauthorization of IDEA, resulted in increased demand for trained and qualified special education staff (Beighley et al., 2013; Koegel et al., 2014; Rispoli et al., 2011; Serna et al., 2016; Symes, & Humphrey, 2011).

Although the demand for trained and qualified special education staff increased, supply has not (Bradley et al., 2011; Goldhaber, Krieg, Theobald, & Brown, 2015). In a government study of IDEA implementation, 46% of school districts reported a shortage
of teachers qualified to work with students with autism spectrum disorder (Bradley et al., 2011). Many school districts responded to this shortage by hiring paraeducators to fill the gap and consequently, paraeducators now outnumber special education teachers in schools (Brock & Carter, 2013; Scull & Winkler, 2011). This practice is problematic as researchers expressed ongoing concerns regarding paraeducator training and supports, supervision, and utilization in schools (Giangreco & Broer, 2005; Symes & Humphrey, 2011). Although ED (2009) reported 80% of paraeducators are supervised, Giangreco and Broer (2005) found in their survey study of 737 educators, 70% of paraeducators designed and implemented lessons without direct supervision from a certificated teacher.

Compounding the issue of paraeducator training and support, supervision, and utilization in schools is the complex social and behavioral needs of students with autism spectrum disorder, who routinely engage in acts of non-compliance, self-abuse, emotional outbursts, and violence (Beighley et al., 2013). Intense social and behavioral needs exhibited by students with autism spectrum disorder were reflected in federal reporting data, which found students with disabilities were two times as likely to be suspended as their typically developing peers, represented one-quarter of students arrested and referred to law enforcement, and represented 58% of students placed in seclusion despite representing only 12% of the overall student population (ED, 2016). Additionally, Keigher (2010) found special education teachers left the profession at double the rate of their general education peers, suggesting school systems and special education staff are not equipped to proactively manage the challenging behaviors of students with disabilities.
EBPs, such as those encapsulated within the principles of ABA, are utilized by educators to conduct FBAs and develop individualized BIPs to proactively manage behavioral excesses exhibited by students with disabilities, including those with autism spectrum disorder. However, without targeted training and support programs, paraeducators at the frontline of implementing BIPs continue to use their own judgment based upon personal experiences and parenting styles (Rispoli et al., 2011). With schools spending thousands of dollars on the development of FBAs and BIPs by expert consultants, the final product is often placed in the hands of an untrained paraeducator for implementation with the student. Consequently, training and support programs, which impact paraeducator delivery of EBPs such as BIPs, are central to ensuring fidelity of implementation and hence improving student learning outcomes (Hogan et al., 2015).

Although research focused on studying the impact of trainings aimed at improving paraeducator utilization of EBPs (Brock & Carter, 2013; Rispoli et al., 2011), only three studies focused on professional development that increased paraeducator fidelity of BIP implementation for students with autism spectrum disorder. Lacking in the research, however, was specificity regarding which training components are most beneficial when developing training programs for paraeducators (Brock & Carter, 2013; Rispoli et al., 2011; Serna et al., 2016). Furthermore, training programs studied were typically delivered by members of the research team and hence failed to demonstrate how such approaches can be realized in the instructional practices of their intended consumers, teachers and paraeducators working in classrooms (Brock & Carter, 2013).

Although studies investigated the effectiveness of training and support programs for paraeducators (Da Fonte & Capizzi, 2015; Deardorff et al., 2007; Hall et al., 2010;
Serna et al., 2016), the training and in the moment supports needed for effective implementation of EBPs by paraeducators working with students with autism spectrum disorder have not been identified (Brock & Carter, 2013; Rispoli et al., 2011; Serna et al., 2016). Additionally, although a number of studies explored how training programs can support effective teacher implementation of BIPs (Cook et al., 2012; Hogan et al., 2015; Mouzakitis et al., 2015), only three studies focused on training programs to support effective paraeducator implementation of BIPs with students with autism spectrum disorder (Hogan et al. 2015; Madzharova et al., 2018; Walker & Snell, 2017). Therefore, given the increased use of paraeducators with students with autism spectrum disorder and limited research regarding how best to train and support them in implementing BIPs with fidelity, this study added much needed insight to this pressing problem.

**Purpose Statement**

The purpose of this convergent mixed methods study was to describe the training and support paraeducators who work with students with autism spectrum disorder received as they implemented behavior intervention plans (BIPs) based on the Browning-Wright, Mayer, and Saren model. Additionally, this study sought to describe the training and support challenges experienced by paraeducators who work with students with autism spectrum disorder. Lastly, this study provided recommendations for training and support from paraeducators who work with students with autism spectrum disorder as they implemented BIPs.
Research Questions

The following research questions guided the study:

1. What training did paraeducators identify and describe as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder?

2. What support experiences did paraeducators identify and describe as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder?

3. What training and support challenges did paraeducators who worked with students with autism spectrum disorder experience as they implemented BIPs based on the Browning-Wright et al. model?

4. What are paraeducators recommendations for training and support, based on their work with students with autism spectrum disorder, as they implement BIPs based on the Browning-Wright et al.?

Significance of the Problem

This study added to the literature examining how paraeducators working with students with autism spectrum disorder are trained and supported in their role. As numbers of students diagnosed with autism spectrum disorder rise, paired with the shortage of special education teachers, paraeducators are hired in ever increasing numbers to fill the gap. Specifically, this study sought to fill gaps in the literature by identifying the kinds of training and in the moment supports needed to enable paraeducators to effectively implement BIPs for students with autism spectrum disorder. Although researchers focused on outcomes of training programs for paraeducators that
incorporate multiple delivery systems, it is unknown which specific components and in
the moment supports are critical to improved performance (Rispoli et al., 2011, Serna et
al., 2016) or “how best to align configurations of professional development components
to the types of practices being taught” (Brock & Carter, 2013, p. 218). Although studies
regarding training programs for improving effective implementation of BIPs by teachers
were conducted (Cook et al., 2012; Mouzakitis et al., 2015), only three studies
investigated how effective BIP implementation by paraeducators working with students
with autism spectrum disorder can be achieved (Hogan et al., 2015; Madzharova et al.,

Currently, students with autism spectrum disorder are more likely to be suspended
for behavioral incidences than their typically developing peers (ED, 2016), and be taught
by a one-on-one paraeducator when placed in a general education setting (Giangreco et
al., 2005). Without adequate training or in the moment support from experts,
paraeducators are often left alone to manage intense behaviors of students with autism
spectrum disorder (Giangreco et al., 2005). A better understanding of the kinds of
training and in the moment supports paraeducators require is needed so researchers,
teacher preparation programs, school district leadership, and special and general
education teachers can effectively train and support paraeducators to implement BIPs
with fidelity, and thus attain improved learning outcomes for students with autism
spectrum disorder and challenging behaviors.

Findings from this study could positively impact the schooling experiences of
students with autism spectrum disorder through the development of targeted, time, and
cost-efficient trainings and in the moment supports that enable paraeducators to
effectively implement BIPs, thus creating a proactive rather than reactive school culture. Research findings from this study may be of interest to district leadership and principals interested in establishing policies, procedures, and practices to address the targeted training needs and in the moment supports for paraeducators working with students with autism spectrum disorder with BIPs. Both special and general education teachers could use the findings to improve how they train and provide in the moment supports for paraeducators and increase paraeducator skill sets in effective BIP implementation. Students with autism spectrum disorder may derive a direct benefit of paraeducator training and in the moment supports, which may result in their increased ability to engage and learn in a general education setting. Additionally, study findings may form the basis of recommendations to teacher preparation programs regarding how best to prepare special education teachers for their role in training and providing supports that enable paraeducators to effectively implement BIPs. Other researchers might build on this work to establish a relationship between professional development as an intervention that can be empirically proven to result in increased student achievement. Finally, paraeducators, and students with autism spectrum disorder and their families could utilize findings as an advocacy tool for improved training to support BIP implementation at their school sites.

Definitions

To clearly understand key terms utilized in this study, as derived from the review of the literature, a list of theoretical and operational definitions relevant to the purpose of this study is provided.
Theoretical Definitions

**Behavior Function.** One of the six key elements of a quality BIP. Rationale for why student behavior is occurring, such as to get an object, gain attention, access something wanted, avoid something, escape, or protest something they do not like. Understanding the reason why a student engages in the behavior helps identify replacement behaviors and strategies to teach new behaviors (Browning-Wright et al., 2013).

**Browning-Wright, Mayer and Saren Model.** Assessment tool titled *Behavior Intervention Plan Quality Evaluation Guide* used to determine BIP quality based on six key components: behavior function, situational specificity, environmental changes and instructional strategies, reinforcement strategies, reactive strategies, and ongoing communication (Browning-Wright et al., 2013).

**Communication.** One of the six key elements of a quality BIP. Ongoing plan for how IEP team members collaborate regarding BIP implementation (Browning-Wright et al., 2013).

**Environmental Change.** One of the six key elements of a quality BIP. Consideration given to physical, social, and instructional factors necessary to support student behavior change (Browning-Wright et al., 2013).

**Evidenced-Based Practice.** Instructional strategy scientifically proven to increase student learning outcomes. Studies regarding instructional strategies meeting this criterion follow a continuum from strong scientific evidence (e.g., from a randomized control trial), moderate evidence (e.g., from a quasi-experimental study), and promising evidence from a correlational or small sample study (Russo-Campisi, 2017).
**Instructional strategy.** One of the six key elements of a quality BIP. Teaching approach used to teach functionally equivalent replacement behaviors (Browning-Wright et al., 2013).

**Reactive strategy.** One of the six key elements of a quality BIP. Plan for what to do when a student engages in inappropriate behavior (Browning-Wright et al., 2013).

**Reinforcement strategy.** One of the six key elements of a quality BIP. Plan for how to support student ongoing use of functionally equivalent replacement behaviors (Browning-Wright et al., 2013).

**Situational Specificity.** One of the six key elements of a quality BIP. Consideration of how the environment impacts behavior (Browning-Wright et al., 2013).

**Operational Definitions**

**Autism Spectrum Disorder.** Disability characterized by impairments in communication and social skills, and atypical environmental interactions (Butter et al., 2003).

**Behavior Intervention Plan.** Document noting instructional strategies to be used in changing student behavior (J. D. Walker & Barry, 2017).

**Communities of Practice.** Professional development involving ongoing collaboration regarding student data/performance. Also known as professional learning community (Joyce & Showers, 2002).

**Functional Behavior Assessment.** Assessment used for determining the function of a behavior and developing a BIP (Walker & Barry, 2017).
**Metacognition.** The process of actively thinking about learning to fully understand new ideas. When utilized to teach adults, the process of metacognition results in transfer of knowledge and skills to teacher practice (Joyce & Showers, 2002).

**Modeling.** Professional development via live or video demonstration (Joyce & Showers, 2002).

**Paraeducator.** Person who provides instructional support to students under the supervision of a certificated teacher (NEA, 2005).

**Performance Feedback.** Professional development involving specific feedback to improve employee skill sets in targeted areas (Brock & Carter, 2015).

**Practice.** Professional development involving rehearsal of targeted skill to be acquired (Hogan et al., 2015).

**Professional Development.** Activity designed to improve skill sets of school employees (Little, 1987, as cited in Desimone, 2009).

**Support.** Ongoing communication and coaching, initiated by either paraeducator or school staff, provided to ensure paraeducator quality of work performance.

**Training.** Professional development to improve employee skill sets.

**Workshop.** Professional development delivered as a single activity.

**Delimitations**

This study was delimited to paraeducators in California who work with students with autism spectrum disorder and BIPs for at least 50% of their workday in elementary schools located in two contiguous counties in northern California.
Organization of the Study

The remainder of this study is comprised of four chapters. Chapter II is a detailed review of the literature about legislation and special education, autism, FBA-based BIPs, paraeducators, needed training and supports for fidelity of BIP implementation with students with autism spectrum disorder, and the theoretical frameworks of the Browning-Wright et al. (2013) BIP model and Joyce and Showers (2002) model for effective staff professional development. Chapter III describes the design of the research and methods applied in this study. This chapter also explains the population, target population, and sample of the study, as well as the instruments utilized for data collection and analysis. Chapter IV presents the data findings and a detailed explanation of study results. Chapter V concludes this study with a summary, including important findings, conclusions, and recommendations for future research.
CHAPTER II: REVIEW OF THE LITERATURE

This review of the literature provides background information regarding the unique educational needs of students with autism spectrum disorder, beginning with an overview of federal and state legislation driving the provision of special education services in schools. Next, this chapter details instructional strategies and environmental modifications necessary to support students with autism spectrum disorder in the general education setting, including legal requirements for educators to utilize only EBP, such as FBA-based behavior intervention plans (BIPs). This chapter then reviews research related to how paraeducators are currently trained and supported with emphasis given to studies regarding paraeducator fidelity of BIP implementation for students with autism spectrum disorder. Lastly, the theoretical model guiding this study is described. Developed by Browning-Wright et al. (2013), the Behavior Intervention Plan Quality Evaluation Guide details six key elements of a quality BIP necessary to effect student behavioral change and success in schooling: behavior function, situational specificity, environmental changes and instructional strategies, reinforcement strategies, reactive strategies, and ongoing communication.

Legislation and Special Education

Brown v. Board of Education

In 1954, Brown v. Board of Education became a landmark civil rights case as it addressed the issue of what constitutes a free and appropriate public education for students of color. Prior to 1954, students of color were forced to attend separate schools from that of their White peers. Litigants successfully argued a separate public education was not appropriate as students of color did not receive the same educational
opportunities. Consequently, the legal precedent of *separate but equal* came to be understood as a fundamental violation of students 14th Amendment rights, which state:

No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

Put simply, by educating students of color in segregated and inferior schools, public schools were denying them equal protection under the U.S. Constitution (Cook, Klein, & Chen, 2012; Yell, 2016). *Brown v. Board of Education* enshrined the idea a student cannot be denied free and appropriate public education based upon an unalterable characteristic such as their race or disability. Consequently, this landmark court case paved the way for parent advocacy groups to successfully litigate for the rights of students with disabilities to receive a free and appropriate public education (Cook et al., 2012; Yell, 2016).

**Free and Appropriate Public Education**

A free and appropriate public education for students with disabilities was a right achieved via successive litigation by parent advocacy groups in the wake of *Brown v. Board of Education* (Yell, 2016). In 1972, a successful class action suit was brought against the Commonwealth of Pennsylvania by the Pennsylvania Association for Retarded Citizens (PARC). This parent advocacy group contended students with disabilities were capable of learning, education should address teaching functional and academic skills, and educational services for students with disabilities should commence in preschool as early intervention maximizes a child’s learning potential. Importantly,
PARC established the Commonwealth of Pennsylvania, by denying students with disabilities a public education, violated their 14th Amendment rights to be equally protected by the law (Yell, 2016).

Similarly, in *Mills v. Board of Education*, 1972, the court held the 14th Amendment protected students with disabilities rights to a free and appropriate public education (Yell, 2016). Furthermore, to ensure their 14th Amendment rights remained protected, the court mandated a clear set of procedural safeguards. These stipulated students with disabilities, regarding any educational decisions about their disability category, school program, or exclusion, were entitled to a free and impartial hearing with the right of appeal and full access to all relevant records (Yell, 2016). Despite such landmark court cases, students with disabilities in the early 1970s continued to be denied a free and appropriate public education, with only 20% receiving educational services in public schools (Katsiyannis, Yell, & Bradley, 2001). This fact necessitated federal oversight of state educational programs for students with disabilities, resulting in the passing of the Education of the Handicapped Act in 1970, followed by the Education for All Handicapped Children Act in 1975 (Yell, 2016).

**Education of the Handicapped Acts.** The Education Handicapped Act of 1970, and its amendment known as the Education for All Handicapped Children Act of 1975, are significant as they represent the first stand-alone laws written to enable students with disabilities guaranteed access to a free and appropriate public education (Yell, 2016). Prior to these acts, students with disabilities were routinely denied free and appropriate public education on two fronts, either they were fully excluded from schools, or when included, their educational programs were not sufficient to address their individual needs.
(Yell, 2016). The Act of 1970 sought to deal with these issues by providing federal dollars as an incentive for states and universities to develop special education and teacher training programs to improve educational outcomes for students with disabilities in schools (Katsiyannis et al., 2001; Yell, 2016).

In 1975, the Education for All Handicapped Children Act took this concept one step further by clearly articulating what constitutes a free and appropriate public education for students with disabilities. This law was enforceable as students with disabilities in accessing a free and appropriate public education were entitled to the following bill of rights: access to a free public education irrespective of race, religion, sex, or particular disability; the provision of an educational program appropriate to their individual needs; a documented individual education plan (IEP) developed in collaboration with parents, students, general and special education teachers, and related service providers; procedural safeguards; and IEP services implemented in the least restrictive environment to the greatest extent possible (J. Walker & Shea, 1999; Yell, 2016). Sixteen years after the landmark case of Brown v. Board of Education, the civil right of students with disabilities to access a free and appropriate public education was finally secured.

**Individuals with Disabilities Education Acts.** Although the civil rights of students with disabilities to access a free and appropriate public education was secured by the Education for All Handicapped Children Act of 1975, concerns continued regarding the quality of educational experiences such students were afforded, as well as the low levels at which they were achieving. To address these concerns, the Education for All Handicapped Children Act was amended in 1997 and again in 2004, and renamed IDEA.
In support of the ideal of securing improved educational outcomes for students with disabilities, IDEA guarantees their access to the general education curriculum, requires they participate in statewide testing to monitor progress, and mandated instruction be delivered alongside their typically developing peers to the maximum extent possible by highly qualified teachers (HQTs) using instructional practices supported by scientifically based research (Yell, 2016). Importantly, in respect to disciplinary processes for students with disabilities, IDEA details how schools are to proactively address their behavioral needs, central in achieving the Act’s broader aim of educating students with disabilities in the least restrictive environment in inclusive settings (Lewis, 2017).

The term least restrictive environment first originated in 1975 where its usage was intentionally added to the Education for All Handicapped Children Act to deter schools from placing students with disabilities in segregated settings (Crimmins & Farrell, 2006; Yell, 2016). Congress believed improved educational outcomes for students with disabilities could be best achieved if they were taught alongside their non-disabled peers in a regular classroom. This concept, also known as full inclusion, is not to be confused with IDEA’s explanation of least restrictive environment, which states:

To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and that special classes, separate school, or other removal of children with disabilities from the regular educational environment occurs only where the nature or severity of the disability is such that education in regular classes with the use of
supplementary aids and services cannot be achieved satisfactorily. (20 U.S.C. § 1412(a)(5)(A))

Although Congress prefers students with disabilities be included in regular classrooms, they recognize this is not always appropriate (Yell, 2016). Consequently, a student’s least restrictive environment must be determined on an individual basis with primary consideration given to their ability to derive an educational benefit.

In deciding the least restrictive environment for a student with a disability, an IEP team must first identify the supports and services needed for the student to derive an educational benefit (Katsiyannis et al., 2001). The least restrictive environment is not a place nor a mandate for full inclusion; rather, it is where a student’s supports and services can be best implemented so they can learn (Yell, 2016). In making this decision, an IEP team must consider a continuum of placement options beginning with least restrictive, general education, through to the most restrictive, such as special classes, special schools, hospitals, and institutions. According to the 39th Annual Report to Congress on the Implementation of IDEA, in 2015, 94.8% of students with disabilities aged 6-21 were educated in regular classrooms for at least some portion of the school day, with at least 60% educated inside the regular class 80% or more of the day. Although such data speak to the success of IDEA in ensuring students with disabilities access to the general education setting, schools continue to suspend and expel students with disabilities at a rate far greater than their non-disabled peers (ED, 2016).

Prior to IDEA, students with disabilities could be suspended and expelled, and consequently denied a free and appropriate public education, without consideration given to how their disability may impact their behavior (Lewis, 2017). With the advent of
IDEA, several procedural safeguards were added to protect students with disabilities civil right to a free and appropriate public education, while also addressing schools’ obligations to maintain safe learning environments for all (Katsiyannis, et al., 2001). First, IDEA limits the number of days a student with a disability can be suspended or expelled to no more than 10 days. Second, this 10-day limit cannot be exceeded without a school first conducting a manifest determination review (MDR).

An MDR is an IEP meeting held to decide if a student’s behavior is a manifestation of their disability. In making this decision, IEP team members must consider if the disability makes it difficult to control and understand the consequences of their behavior, and if the IEP was sufficient in addressing their learning and behavioral needs (Lewis, 2017; Yell, 2016). If participants in the MDR meeting find the behavior was not a result of the student’s disability or a poorly implemented IEP, then the student can be disciplined in the same manner as their non-disabled peer. However, if the behavior is found to be a manifestation of the student’s disability, then an FBA and BIP must be developed to proactively address the student’s behavioral needs (Lewis, 2017; Yell, 2016). The only exception is when the behavior involves drugs, weapons, or serious bodily harm, in which case a student with a disability can be expelled for up to 45 days (Lewis, 2017; Yell, 2016). Even in this scenario when a student with a disability is expelled from their school, irrespective of their IEP team’s MDR, they must be placed in an alternative setting and continue receiving a free and appropriate public education.

In 2004, IDEA was amended and although many of the disciplinary provisions remained the same, some important changes were made to the manifest determination review process (Lewis, 2017). Instead of considering three criteria, the IEP team need
only consider two: was the student’s IEP implemented correctly and was the behavior a direct result of the disability. Additionally, only those IEP team members relevant to making the MDR decision are required to be part of the IEP meeting and documents referenced in making the decision are less specific than what was previously detailed under IDEA of 1997 (Lewis, 2017). Researchers offered a number of criticisms of the IDEA legislation in respect to these disciplinary provisions, namely the law fails to clearly define what constitutes a FBA-based BIP, and consequently, it is a subjective process enabling schools to follow the letter of the law without meeting the spirit of the law (Crimmins & Farrell, 2006; Lewis, 2017; Poucher, 2015; Yell, 2016). Although the intent of IDEA disciplinary provisions is for schools to proactively address the behavioral needs of students with disabilities through the use of positive behavioral interventions and supports thus enabling them to remain in the least restrictive environment, many schools view these processes as merely ensuring procedural compliance with IDEA (Blood & Neel, 2007).

**California Hughs Bill.** In furthering IDEA’s least restrictive environment mandate for students with disabilities using positive behavioral interventions and supports, California’s Hughs Bill, enacted in 1990, detailed specific requirements in relation to these processes. In respect to students whose behavior impedes the learning of themselves or others, IDEA only requires schools to consider the use of positive behavioral interventions and supports. However, when a student is to be removed from school for a period greater than 10 days, which constitutes an educational change in placement, IDEA requires schools to conduct a MDR and develop a FBA-based BIP when the behavior is a result of either their disability or an inadequately implemented
IEP. Although IDEA notes a BIP is to be implemented when a change in educational placement occurs and is to be completed by a student’s IEP team, it does not specify who should lead the process, their qualifications, or what a FBA-based BIP should contain (Zirkel, 2011).

The California Hughs Bill sought to address this lack of specificity by creating requirements in excess of IDEA disciplinary mandates. The Hughs Bill expanded when schools should use a FBA-based BIP to include incidences where a student’s behavior impedes the learning of themselves or others, it required schools to have a signed assessment plan prior to conducting a FBA that the person leading the process be suitably qualified with documented training in behavior analysis and positive behavioral interventions and supports, and the IEP team implementation of the resultant BIP was overseen by a certified behavior intervention case manager (Zirkel, 2011). Additionally, the Hughs Bill specified when developing a BIP, the IEP team must consider how replacement behaviors will be taught to the student across all life settings. The intent of the California Hughs Bill was to ensure schools were doing more than simply checking a procedural box to comply with IDEA and avoid parental litigation when responding to the behavioral needs of students with disabilities.

Despite the intent of the California Hughs Bill to specify exactly how schools should respond to the behavioral needs of students with disabilities, it was repealed in 2013 by Assembly Bill 86 for two reasons. First, it was too costly to implement as schools lacked the time and staff with the necessary expertise so they often hired outside consultants, such as board certified behavior analysts, to complete FBA-based BIPs. Second, by repealing the Bill, California Educational Code was brought back into
alignment with the less specific IDEA disciplinary provisions. This meant schools in California were no longer required to develop FBA-based BIPs for students whose behavior impeded the learning of themselves or others and must now only consider the use of positive behavioral interventions and supports and other strategies (California Educational Code § 56521.2 (b)). Furthermore, the requirement for behavior intervention case managers to provide oversight of BIP implementation was also removed (California Educational Code § 56523. (a)). Instead, schools may consider using a board certified behavior analyst, but are not mandated to do so (California Educational Code § 56525).

The repeal of the Hughes Bill meant the questioning of when to use a FBA-based BIP and what documents must contain to ensure a free and appropriate public education is now being decided through litigation in the courts (Collins & Zirkel, 2017; Poucher, 2015; Zirkel, 2011).

**Case Law: Functional Behavior Assessments and Behavior Intervention Plans**

Zirkel (2011) analyzed 173 litigated FBA-based BIPs from 1998 through to 2010 and noted an upward trend in favor of school districts when parents argued their child was denied a free and appropriate public education due to non-existent or improperly implemented FBA-based BIPs. In denying a free and appropriate public education determination, courts consider two principles: were IDEA procedural safeguards followed and did the child benefit, at least minimally, from their IEP (Poucher, 2015).

Known as the *Rowley Standard*, Collins and Zirkel (2017) discussed several court decisions illustrating how this is applied. In a New York case, the court applied the Rowley Standard and found the absence of an FBA was not a denial of a free and appropriate public education as the IEP adequately addressed the child’s behavioral
needs. Similarly, in California the lack of an FBA-based BIP did not prevent a child with autism from making progress toward their IEP goals, so the parents’ claim their child was unable to access a free and appropriate public education was denied (Zirkel, 2017).

Collins and Zirkel (2017) contended courts consistently decided in favor of school districts because IDEA failed to specify the when, who, what, and how of FBA-based BIP implementation. Consequently, in the absence of more specific IDEA legislation, the courts held schools to a minimum standard, even when states expanded legal requirements such as with the repealed California Hughes Bill. Essentially, if an IEP addresses a student’s behavior using positive behavioral interventions and supports and the child is benefiting from the IEP, a school’s failure to write an FBA-based BIP is not a denial of a free and appropriate public education. This minimum standard means schools can be procedurally compliant with IDEA without meaningfully effecting student behavioral change (Poucher, 2015). As noted by Collins and Zirkel (2017), “practitioners should focus on adhering to empirically validated practices rather than simply conforming to the minimum required set forth by the law” (p. 188).

**Education, IDEA, and Evidenced-Based Practices**

School usage of empirically validated practices, such as those proven by scientifically based research, was mandated by NCLB to ensure schools bridged the achievement gap that still exists for many students. In 2015, NCLB was replaced by ESSA and what constitutes effective instructional practices in the classroom was re-defined. ESSA mandates schools use EBPs following a continuum from strong scientific evidence (e.g., randomized control trial), moderate evidence (e.g., quasi-experimental study), and promising evidence, which utilizes a correlational study (Russo-Campisi,
A critique by researchers regarding the emphasis on EBPs in the field of autism is the heterogeneous nature of this population makes it difficult to develop group experimental studies (McDonnell & O’Neill, 2003; Spooner & Browder, 2003, as cited in Spooner, McKissick, & Knight, 2017). In contrast, IDEA recognizes the need to capture a broader range of scientifically supported instructional practices and hence requires schools to use peer-reviewed research to the extent practicable when developing a student’s IEP (Russo-Campisi, 2017). Whereas scientific research is based on an experimental method, peer-reviewed research allows schools to select instructional practices found to be effective by quantitative, correlational, or qualitative studies, the scientific rigor of which is established by a panel of expert peers (Russo-Campisi, 2017).

Parents interpreted IDEA’s peer-reviewed research mandate to mean their child is entitled to a higher standard of a free and appropriate public education; however, courts primarily favored school districts when adjudicating on this matter (Russo-Campisi, 2017; Yell, 2016). As Yell (2016) noted in a case where parents argued their child’s reading curriculum was not based on peer-reviewed research, the appellate court wrote:

The Individuals with Disabilities Act does not require an individual education plan to provide the optimal level of services, we like-wise hold that the Individuals with Disabilities Act does not require a school district to choose the program supported by the optimal level of peer-reviewed research. Rather, the peer-reviewed specially designed instructions in an individual education plan must be reasonably calculated to enable the child to receive meaningful educational benefits in light of the child’s intellectual potential. (p. 164)
In another court ruling, parents pursued a denial of a free and appropriate public education because the school used timeouts and physical restraints as part of their child’s BIP. Although the school argued these practices were supported by peer-reviewed research, the court found in favor of the parents because positive behavioral interventions and supports was not included in the BIP as required by IDEA’s disciplinary provisions (Russo-Campisi, 2017). As with disciplinary provisions, the peer-reviewed research mandate is more symbolic than substantive and because it does not specify how peer-reviewed research instructional practices are to be implemented, IDEA fails to bridge the research to practice gap (Russo-Campisi, 2017). Rather, what the law needs to address is school’s fidelity of peer-reviewed research implementation as, “The special education programs they develop and implement will be much more likely to confer meaningful education benefit, and thus meet the substantive requirements of a free and appropriate public education” (Yell & Rozalski, 2013, as cited in Yell, 2016, p. 165).

**Paraeducator Standards**

Fidelity of implementation can be inferred to be addressed by legislative mandates regarding teacher and paraeducator professional standards. In the arena of special education, NCLB and IDEA set specific standards regarding the training, qualifications, and ongoing professional development requirements for educators working with students with disabilities (Deardorff et al., 2007; Yell, Drasgow, & Lowrey, 2005). An HQT, as stipulated by NCLB and IDEA, is one who holds a bachelor’s degree, has met state licensure requirements, and can demonstrate subject matter competency through state examination. Similarly, paraeducators must have a high school certificate; pass a basic reading, writing, and math exam; or have attained higher
education units and/or a degree to prove they are highly qualified (Yell et al., 2005). In 2015, NCLB was superseded by ESSA and the term highly effective teacher (HET) replaced HQT. Although ESSA allows each state to define this term, measures must include links to improved student performance (Saultz, White, McEachin, Fusarelli, & Fusarelli, 2017). Whereas NCLB expected HQTs to merely provide paper evidence of their qualifications, ESSA requires HETs to provide measurable data to prove their effectiveness. Additionally, teachers and paraeducators must participate in ongoing professional development, the intent of which is to ensure they utilize EBPs in increasing student achievement (Yell, 2016).

**Professional Development of Teachers and Paraeducators**

ESSA recognizes that for teachers and paraeducators to be highly effective, participation in ongoing professional development in EBPs is necessary. Consequently, along with a shift in focus from HQT to HET, federal professional development dollars are prioritized for use with all school staff, including paraeducators (Saultz et al., 2017). In this regard, ESSA marks a significant change in thinking regarding what is an appropriate education for all students. In the 20th century, the question of equality in education was one of access to a free and appropriate public education as established by the Education for All Handicapped Children Act of 1975. In the 21st century, ESSA clearly defines equality in education as one of access to HETs.

In summary, federal and state legislation continues to shape students with disabilities access to a free and appropriate public education. Laws are in place to ensure students with disabilities can attend public schools at no cost, are taught by highly trained and qualified staff in the least restrictive environment, and guaranteed procedural
safeguards to protect their unlawful removal from schools due to behaviors resulting from their disability. Furthermore, legislation mandates teachers use EBPs scientifically proven to increase student achievement as a means of ensuring students with disabilities benefit from their educational program. Although special education law has been in place for over 50 years, it remains a civil rights issue as current practices to educate students with disabilities is still lacking.

**Autism**

Autism spectrum disorder is a complex disorder with students exhibiting impairments in social and communication skills, paired with an inability to appropriately adapt to their environment. As a spectrum disorder, the level of severity differs with some individuals displaying minimal symptoms, such as limited eye contact when speaking, and others exhibiting severe behaviors such as self-injury, aggression, and destruction of property (Koegel, Matos-Freden, Lange, & Koegel, 2012). Somewhat noteworthy is the fact a student with autism spectrum disorder can present as severely disabled when young due to deficits in communication and adaptive behaviors, which mask their true cognitive capacity (Kurth, 2015; Marshall & Goodall, 2015; McKenney, 2017). According to the Centers for Disease Control (2012), 38% of students with autism spectrum disorder have average to above average intellectual ability. However, a low intelligence score when young can result in a more restrictive placement which, as Jorgensen (2005) noted, is associated with, “lowered expectations and narrowed visions of the future for students with disabilities, and thus, there is a critical need for families and educators to consider the long-term impact of placement decisions on students” (as cited in Kurth, 2015, p. 255).
The number of students diagnosed with autism spectrum disorder tripled over the last decade (ED, 2016). Such rising numbers of students with autism spectrum disorder greatly impacted school systems, resulting in increased demand for special education services, a shortage of qualified special education teachers, and more and more paraeducators being hired by schools to work as a direct support for students with autism spectrum disorder.

The use of untrained paraeducators as a support for students with autism spectrum disorder in the general education setting is concerning, as both IDEA and ESSA require staff to implement EBPs when instructing students. As Kurth (2015) argued, schools need to place a greater emphasis on how to educate students with autism spectrum disorder in the general education setting rather than simply considering if they should be placed in a general education classroom. In the words of one student with Asperger Syndrome, “When the person with AS and the environment match, the problems go away and we even thrive. When they don’t match, we seem disabled” (Baron-Cohen, 2003, p.180, as cited in Marshall & Goodall, 2015, p. 3159). Consequently, what is needed is teacher and paraeducator implementation of EBPs proven to support the successful inclusion of students with autism spectrum disorder in general education.

**Autism and Inclusion**

The term *inclusion* is generally understood to refer to the amount of time a student spends in the general education setting (Kurth, 2015). In California, 33% of students with autism spectrum disorder spend greater than 80% of their school day in general education, with a further 16.3% being included for 40-79% (http://www.ideadata.org). The term *inclusion* differs from IDEA’s concept of least restrictive environment, which
mandates a continuum of placement options be considered in determining the setting where a student is most likely to derive educational benefit. The point of overlap occurs when IEP teams discuss placement options for a student with autism spectrum disorder, as their first consideration must always be full inclusion in a general education setting, followed by successively more restrictive placements as denoted by time spent in general education.

Researchers highlighted a number of benefits to students with autism spectrum disorder when afforded inclusive learning opportunities, namely access to the core curriculum, increased academic achievement, increased classroom participation, and more opportunities for forming friendships with their typically developing peers (Kurth, 2015; Marshall & Goodall, 2015). Although academic and social benefits are often presented as a sound rationale for placing a student with autism spectrum disorder in a regular classroom, their physical presence alone does not guarantee such outcomes (Marshall & Goodall, 2015). As noted by Falkmer, Parsons, and Granlund (2012) in their survey of general education teachers and students with autism spectrum disorder, when students with autism spectrum disorder reported being bullied, teachers responded by addressing peer attitudes instead of teaching students with autism spectrum disorder the social skills needed to make friends and resolve peer conflict.

**Autism and Evidenced-Based Instructional Strategies**

Students with autism spectrum disorder can learn when evidenced-based instructional strategies and necessary environmental modifications are in place. Examples of evidenced-based instructional strategies needed when teaching students with autism spectrum disorder include use of visual supports to promote student
comprehension (e.g., visual schedules, timers, first/then cards, picture icons for communication); use of social stories to aid student comprehension of class rules; development of peer relationships and self-advocacy skills; opportunities for frequent choice; positive reinforcement via social and tangible systems; use of discrete trial training to teach communication; guidance on self-help and academic concepts; and FBA-based BIPs to address challenging behaviors (Hogan et al., 2015; Scheeler, Morano, & Lee, 2018; V. L. Walker & Snell, 2017; Wright & Prescott, 2017). Teacher implementation of evidenced-based instructional strategies alone is not enough to effectively address the complex learning needs of students with autism spectrum disorder; of equal importance is considering necessary environmental modifications.

Environmental modifications are necessary to support students with autism spectrum disorder to effectively self-regulate across all educational settings and consequently learn. Environmental supports, known to help students with autism spectrum disorder self-regulate and learn, include ensuring a consistent and predictable classroom routine, having a plan for supporting student transitions, minimizing visual clutter and distracting sounds, actively utilizing peers as natural supports, and providing a dedicated safe space in which a student take a break, calm, and return to task when needed (Prizant, Wetherby, Rubin, Laurent, & Rydell, 2006). Although evidenced-based instructional strategies and environmental modifications are known, educational staff involved in working with students with autism spectrum disorder must also demonstrate particular skill sets to implement such EBPs with fidelity.

As stated by Prizant et al. (2006), the skill sets of educational staff assigned to work with students with autism spectrum disorder are crucial in ensuring a successful
learning experience. Educator skill sets include an ability to respond to student needs, model expected behaviors, foster student initiation and independence, and make necessary instructional and environmental modifications as needed. Educators must understand their role to provide the least amount of assistance necessary to foster student independence, as directing and controlling a student’s every action can result in student non-compliance and challenging behavior. Additionally, without trust and a belief a student with autism spectrum disorder can and will learn, the establishment of rapport necessary to motivate student behavior change cannot occur. As stated by Prizant et al. (2006), “The history of positive interactions with partners who are able to support social communication and emotional regulation in everyday activities is the foundation of the development of positive and trusting relationships” (p. 85). It is such interpersonal skills, as well as an educator’s ability to accept coaching, feedback, and critically reflect on instructional practices, that EBPs necessary for students with autism spectrum disorder to learn can be implemented with fidelity.

Joyce and Showers (2002) highlighted the need for teachers to think collegially about how they plan to use newly acquired knowledge and skills, such as EBPs, in their classrooms. This step must be planned for when designing professional development and is vital in bridging the research to practice gap. Snow (1982) described this process as one of metacognition where, “Learning is a function of the amount of active mental effort invested in the exercise of intelligence to accomplish cognitive work” (as cited in Joyce & Showers, 2002, p. 93). Joyce and Showers (2002) noted benefits of metacognition, the process of thinking about how people learn, include quicker participant uptake of new knowledge and skills, increased fidelity of implementation, and improved transfer of
knowledge and skills to classroom practice. Joyce and Showers (2002) believed it is through the establishment of communities of practice the process of metacognition within professional development can be fully realized.

Communities of practice were described by Joyce and Showers (2002) as regular team meetings involving teachers as researchers engaged in focused inquiry into topics such as lesson planning, curriculum, EBPs, and the development and monitoring of shared goals, the intent of which is to improve student learning. Communities of practice speak to the need for learners to have opportunities to think collaboratively with their peers about what they learned, how they are trying to implement EBPs in their classroom, and engage in peer coaching to further their understanding. Joyce and Showers (2002) argued communities of practice bridge the research to practice gap, thus truly impacting student learning through teacher uptake of EBPs with fidelity.

The What Works Clearing House is a government funded website that categorizes the scientific efficacy of interventions into three groups: positive or potentially positive, mixed effects, and no evidence (Odom, 2009). Interventions identified as EBPs for teaching students with disabilities include social skills training, peer assisted learning, ABA, and FBA-based BIPs. Another resource specific to the needs of students with autism spectrum disorder is the National Professional Development Center on Autism Spectrum Disorder, which developed a free, online training program titled *Autism Focused Intervention and Resources Modules*. The purpose of this professional development package is to train teachers on how to select, implement, and monitor their use of EBPs with learners with autism spectrum disorder.
Barriers to Teacher Use of Evidenced Based Practices

Although EBPs were identified and efforts at developing professional development to support greater uptake by practitioners is in progress, barriers to implementation persist. One such barrier is practitioner confusion created by the various definitions of scientifically based research, peer-reviewed research, and EBPs used by researchers, and what is meant by scientific research as defined by IDEA and ESSA. This is compounded by the fact only 57% of online resources for identifying EBPs are reliable (Test et al., 2015). Furthermore, IDEA mandates practitioners use peer-reviewed research and ESSA specifies the use of EBPs, yet case law decisions have not required schools to do so. As noted by Russo-Campisi (2017), where parents claimed schools failed to use interventions based on peer-reviewed research and hence denied their child a free and appropriate public education, the courts found in favor of school districts. In making these decisions, educational benefit was the deciding factor regarding a free and appropriate public education and not peer-reviewed research as peer-reviewed research is only required to the extent practicable. Although the intent of the legislation is clear, that practitioners use interventions scientifically proven to increase student achievement, the law as currently written does little to bridge the research to practice gap (Russo-Campisi, 2017).

Additional barriers to bridging the research to practice gap include continued reliance on single workshops as a training tool, which do not result in practitioner uptake into classroom practice, the development of EBPs by researchers that are difficult to implement in real-world settings, the need for special education teachers to adapt EBPs for their students thus compromising fidelity of implementation, limited collaboration
between researchers and teachers, and teachers guided by their own professional opinion in selecting interventions (Harn, Parisi, & Stoolmiller, 2013; Koegel et al., 2012; Odom, 2009; Russo-Campisi, 2017). In a survey study conducted by Knight, Huber, Juarez, Kuntz, and Carter (2016, as cited in Spooner et al., 2017) regarding teacher use of EBPs and student specific needs, their own professional opinion served as the primary driver for selecting interventions as opposed to journal articles, books, and researcher endorsement. In the real-world of teaching, EBPs are not a teacher’s first choice.

Fixsen, Blasé, Metz, and Van Dyke, (2013), in their article “Statewide Implementation of Evidenced-Based Programs,” discussed a schoolwide change model for bridging the research to practice gap. According to Fixsen et al. (2013), a plan for school wide implementation of EBPs must address increasing practitioner capacity through targeted professional development, allowing individualization of the EBPs at the local level, and promoting ongoing talks between policymakers and end users of EBPs (e.g., schools, teachers). Furthermore, schools need to be systematic in the planning for implementing EBPs, as detailed by Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments (ED, 2016). Such a process must incorporate alignment of selected EBPs with local needs; development of measurable goals; identification of needed resources, persons responsible, and implementation timelines; and collection of data to evaluate key educator and student outcomes.

This section of the literature review provided detailed information regarding the unique educational needs of students with autism spectrum disorder. It began by defining autism spectrum disorder and demonstrated the link between rising numbers of students diagnosed with autism spectrum disorder, special education teacher shortages, and
increasing numbers of paraeducators hired to fill the gap in special education services for students with autism spectrum disorder. This section also discussed legislative mandates pertaining to staff training, inclusion, and least restrictive environment, as well as the kinds of instructional strategies and environmental modifications needed to ensure students with autism spectrum disorder learn and benefit from their educational program. This section concluded with a discussion of intervention systems available to teachers when choosing EBPs and why their use of EBPs in their classrooms is minimal.

**Functional Behavior Assessment-Based Behavior Intervention Plans**

FBA-based BIPs were mandated by IDEA in 1997 in response to disproportionate numbers of students with disabilities being suspended and expelled from schools without consideration of to how their disability impacts their behavior or whether their IEP addressed their behavioral needs. As noted by J. D. Walker and Barry (2017), an FBA is conducted by a student’s IEP team when it is determined the student’s behavior is impeding the learning of themselves or others. The purpose of an FBA is to determine the function of the behavior and identify environmental factors that drive continued use of the behavior by the student. All behavior is viewed as a form of communication, with the function of student behavior simplified into two categories, to get something or avoid something. FBAs also include operational definitions of student behavior so all IEP team members have a clear understanding of the behavior to be addressed. Additionally, FBAs identify the environmental factors under which the behavior occurs (i.e., antecedents before the behavior and consequences after the behavior). This information is then used to formulate a working hypothesis regarding the function of the behavior and is the foundational data upon which a BIP is developed (J. D. Walker & Barry, 2017).
Behavior Intervention Plans

BIPs are an EBPs utilized by IEP teams to proactively address student behavior. Whereas an FBA provides a working hypothesis for why the behavior is occurring and operationally defines the behavior, the BIP details the specific instructional strategies the IEP team will use to change student behavior and teach functionally equivalent replacement behaviors. According to Browning-Wright et al. (2013), a well-written BIP addresses six key elements: (1) the function of the behavior, (2) environmental triggers for the behavior, (3) staff behavioral and environmental changes that need to occur and instructional strategies to be used, (4) how replacement behaviors will be reinforced, (5) reactive strategies to be implemented by staff, and (6) IEP team coordination and communication regarding fidelity of BIP implementation. Without a clearly documented plan for addressing student behavior, such as an FBA-based BIP, consistency of implementation across all involved staff cannot occur and student challenging behavior will continue unchecked.

A well-written BIP is the first step in affecting student behavior change. To this end, Browning-Wright et al. (2013) developed the Behavior Intervention Plan Quality Evaluation Guide. This research-supported evaluation tool specifies six features of a quality BIP and uses a rubric to determine if a BIP is superior, good, underdeveloped, or weak.

First, a quality BIP must state the function of the behavior (Browning-Wright et al., 2013). This can either be to get something (e.g., an object, attention, access to a preferred activity) or reject something (e.g., avoid, escape, protest something undesirable). Understanding the why of student behavior helps in identifying a
functionally equivalent replacement behavior. For example, if a student engages in dropping to the ground to protest the end of recess, a functionally equivalent replacement behavior would be to teach requesting by offering the student a choice of five or 10 more minutes on the playground. In this way, the maladaptive behavior of dropping down to protest is replaced by an appropriate communication strategy, choice making, to get a need met (Browning-Wright et al., 2013).

A quality BIP must also address situational specificity (Browning-Wright et al., 2013). This second key component refers to how the student’s physical, social, and instructional environment impacts their behavior. Changing the environment can change student behavior. Consider a student who hits peers when it is time to line up as a maladaptive response to unpredictable touching. By having this student line up first or last, the likelihood of accidental touch is reduced. This is a clear example of how environmental adjustments can be used to address student behavior (Browning-Wright et al., 2013).

A third feature involves two concepts, identifying environmental changes needed to support student use of appropriate behaviors and the instructional strategies to be used by implementers to teach a functionally equivalent replacement behaviors (Browning-Wright et al., 2013). One example of an environmental support is a social story. For a student who hits peers when lining up, a social story can be used to teach lining up rules and what to do when accidentally touched by another person. The instructional strategy would have the student read and rehearse skills prior to engaging in lining up with peers. In this way, a known triggering event in the student’s environment is clearly identified, along with a plan for proactively teaching rules and appropriate social responses.
Additionally, the BIP must document reinforcement strategies, needed to ensure the student continues to engage in the desired replacement behavior (Browning-Wright et al., 2013). This reinforcement of a functionally equivalent replacement behavior is the fourth feature of a quality BIP.

The fifth feature is documentation of reactive strategies (Browning-Wright et al., 2013). This section informs implementers of what to do if the behavior recurs. Reactive strategies involve prompting the student to engage in the functionally equivalent replacement behavior through distraction, redirection, progressive removals, or school-based disciplinary consequences (Browning-Wright et al., 2013).

The sixth and final key component of a quality BIP addresses how communication will occur among IEP team members (Browning-Wright et al., 2013). Ongoing communication is key in successful BIP implementation but planning for how this is to occur is often overlooked by IEP teams (Kraemer et al., 2008; J. D. Walker & Barry, 2017). This gap in BIP planning is concerning as “ongoing collaboration geared toward building school teams’ knowledge and skills related to BIP will benefit all members of the IEP team, including the student for whom behavior change will likely result in an improved capacity to learn” (J. D. Walker & Barry, 2017, p. 1). Although BIP quality is the first step in addressing student behavior, it is only in fidelity of implementation behavior change and increased capacity for student learning can be achieved.

**Behavior Intervention Plan Settings**

Writing a quality BIP is the first step in addressing student behavior and ultimately improving student learning capacity. Of equal importance is fidelity of BIP
implementation, which necessarily involves consistency of behavioral programming across people and settings where student learning occurs. As discussed by Browning-Wright et al. (2013), when BIPs fail, it is often because teaching strategies are not aligned to the student’s physical, social, or instructional settings.

Settings for student learning are specified in state law definitions of BIPs and include life settings, home, school, and the broader community (Zirkel, 2011). Specific examples of varied settings where student learning occurs can be found in state authored paraeducator handbooks, which detail their roles and responsibilities in schools. Although paraeducators provide instructional support to students in classrooms, their duties also extend to supervising students in lunchrooms, playgrounds, libraries, and during bus transitions; escorting students to various settings within the school; and providing meal and toileting assistance. Furthermore, paraeducators are expected to work as one on one aides responsible for implementing student BIPs across school settings (Carter et al., 2009).

Although BIPs are implemented across school settings by paraeducators, researchers failed to focus on this fact. To date, the majority of studies regarding fidelity of BIP implementation were limited to the classroom setting (Hogan et al., 2015; Mouzakitis et al., 2015; V. L. Walker & Snell, 2017), with only one study examining how classroom staff implement a BIP effectively across varied settings (Madzharova et al., 2018). This literature gap regarding professional development that ensures fidelity of BIP implementation outside of the classroom setting is a major barrier to educator uptake of EBPs in schools. As noted by V. L. Walker and Snell (2017), “Paraprofessionals are often present across school settings for the majority of student’s time at school and thus,
can help ensure consistent implementation of behavioral interventions across the student’s school day” (p. 115). Paraeducators need targeted training and ongoing support from supervisors in how to implement with fidelity instructional strategies and environmental modifications as detailed in a student’s BIP.

**Behavior Intervention Plan Instructional Strategies**

Several researchers focused on training paraeducators who work with students with autism spectrum disorder in how to implement instructional strategies detailed in a BIP (Hogan et al., 2015; Madzharova et al., 2018; V. L. Walker & Snell, 2017). As Hogan et al. (2015) remarked, “In a school setting with many students who have BIPs, correct implementation is an essential skill for instructional staff” (p. 244). BIPs documented in these studies utilized a range of instructional strategies including use of constant time delay to teach a student to initiate requests, teaching functional communication such as asking for a break when needed to replace student use of maladaptive communication behaviors, use of contingent specific praise to promote student use of a functionally equivalent replacement behavior, use of discrete trial training to teach on-task behavior, use of contingent and non-contingent differential reinforcement to support use of appropriate communication skills, use of frequent choice-making opportunities paired with token board reinforcement to teach pro-social behaviors, use of extinction (e.g., ignoring unacceptable behavior to diminish student usage), and paraeducator use of a prompting hierarchy to promote student independence. Although researchers focused on identifying the kinds of training that best enables paraeducators to implement BIPs for students with autism spectrum disorder with
fidelity, little is discussed in the literature regarding forms of ongoing support paraeducators need to sustain fidelity over time.

**Ongoing Paraeducator Supports**

Researchers in the field of training paraeducators in fidelity of BIP implementation used behavior skills training such as instruction, modeling, rehearsal, and feedback (Hogan et al., 2015; Madzharova et al., 2018; V. L. Walker & Snell, 2017). Although paraeducator supports were not explicitly detailed by researchers, they were inferred from documented training protocols and include providing paraeducators a copy of the student’s BIP, modeling instructional strategies with opportunities for practice, in vivo performance feedback specific to instructional strategies detailed in the student’s BIP, ongoing communication regarding paraeducator performance, and researcher coaching delivered to the paraeducator while implementing the BIP with a student.

Although researchers are beginning to identify the best way to train paraeducators on how to implement BIPs with fidelity, little is explicitly stated in the literature regarding needed ongoing paraeducator supports. One of the key indicators of a quality BIP, as discussed by Browning-Wright et al. (2013), is ongoing communication and collaboration between all involved IEP team members; however, this BIP element is often inadequately addressed during the BIP development process (Kraemer et al., 2008). Failure by IEP teams to adequately plan for and implement ongoing support for paraeducators means they are left without needed resources to effectively implement a student’s BIP. It is the responsibility of all IEP team members to ensure paraeducators are fully supported in their role, as they are the person primarily responsible for implementing BIPs across varied school settings. A promising practice addressing how
best to provide ongoing support for paraeducators is job-embedded professional
development, as it is this model of training and ongoing support affording paraeducators
the real-time coaching and feedback necessary to improve and sustain skill sets,
combined with ongoing communication and collaboration from expert professionals on a
student’s IEP team.

One researcher who specifically investigated the training needs of paraeducators
responsible for implementing BIPs is Virginia Walker (2017). In her survey of 487
paraeducators regarding their self-reported skill level and training needs, she found
paraeducators wanted training to occur within their school setting utilizing experiential
learning as a training tool and to take the least amount of time needed. Furthermore,
paraeducators in this study voiced a desire for training to be delivered by experts as
opposed to in-house supervisors. Regarding their self-identified skill level within FBA-
based BIP implementation, half had a low to moderate need whereas half had a moderate
to high need. A possible explanation for this difference was corresponding years of
experience, which was a participant demographic not addressed within her survey.
Consequently, V. Walker (2017) recommended further research on a smaller scale at the
local level to address this question.

This section of the literature review explained the purpose and content of an FBA-
based BIP developed by IEP teams to address students with challenging behavior. This
section outlined this study’s theoretical framework, the Behavior Intervention Plan
Quality Evaluation Scoring Guide, developed by Browning-Wright et al. (2013) to
determine if a BIP is well written. This assessment tool specifies six key components of
a quality BIP necessary in achieving student behavioral change: (1) behavior function, (2)
situational specificity, (3) environmental changes and instructional strategies, (4) reinforcement strategies, (5) reactive strategies, and (6) ongoing communication. This section also detailed the training and supports provided by researchers when teaching paraeducators how to implement BIPs with fidelity and concluded with a discussion of how IEP teams fail to address the sixth element of a quality BIP, ongoing communication. Consequently, paraeducators need ongoing communication from all involved IEP team members and job-embedded professional development so they can be fully supported, and hence implement BIPs for students with autism spectrum disorder.

**Paraeducators**

Schools commonly utilize paraeducators as an instructional support, and although required by law to work under the direct supervision of a certificated teacher, this does not always occur (Pickett et al., 2003). In schools, their roles and responsibilities changed since the position was first created in the 1960s. Initially, paraeducators performed mostly clerical, monitoring, and housekeeping duties; however, this role expanded and now includes instructing and supervising students across a variety of settings within schools (Pickett et al., 2003). Paraeducators provide instructional support in the classroom, supervise students on the playground, escort students between classes, meet students with special needs at the bus, and work as instructional aides. Notably, many paraeducators are hired to support students with disabilities in general education classrooms (Patterson, 2006), which resulted in a sharp rise in the number of paraeducators working in schools.

In addition to role expansion, the numbers of paraeducators working in schools exceeds that of special education teachers in the United States (Brock & Carter, 2013).
As noted by the ED (2016), the number of full-time equivalent (FTE) special education paraeducators working in schools in 2013 was 416,798 whereas the number of FTE special education teachers in this same year was 378,614. The U.S. Bureau of Labor and Statistics (2017) predicted a 6% increase in the number of special education teachers and paraeducators hired from 2014 to 2024 due to rising student enrollment, expanded demand for special education services, and the need to replace staff leaving the field. Additionally, increasing paraeducator numbers in schools comes as a consequence of the special education teacher shortage experienced by many districts across the U.S. (Boe, 2006; Goldhaber et al., 2015; Martin, 2017; Nakama, 2015). With special education teachers in short supply and tasked with training and supervising large numbers of paraeducators, it is not surprising paraeducators, contrary to IDEA mandates, end up designing and delivering lessons to students.

**Paraeducator Training and Supervision**

Given special education teachers are the primary trainer and supervisor of paraeducators in schools, there is concern in the literature regarding their preparedness to adequately take on this responsibility (Brock & Carter, 2013; Giangreco et al., 2010; Symes & Humphrey, 2011). Teachers’ lack of adult training skills means paraeducators are unsupported in their efforts to implement BIPs with fidelity. In a literature review of 32 studies that specifically addressed the work of special education paraeducators in inclusive settings, Giangreco et al. (2010) found paraeducators could perform tasks that contributed to student learning when trained, but the need for such training was ongoing. Researchers also identified how untrained paraeducators negatively impacted student learning by limiting their opportunities to form friendships and decreasing their access to
the general education curriculum (Brock & Carter, 2015; Scheeler et al., 2018). Finally, Symes and Humphrey (2011), who interviewed 15 paraeducators about their work with students with autism spectrum disorder in inclusive settings, found “all felt that generic training about autism spectrum disorder was not helpful” and instead needed training specific to their roles, such as learning how to teach students to be independent (p. 57).

Regardless, school systems continue to allow them to work with students in an unsupervised capacity.

According to ED (2009), “80 percent of paraeducators are supervised by a certificated teacher, however 19 percent noted half of their time was spent working with students unsupervised” (p. 124). The findings of this government report are not supported by the research literature, which voices ongoing concerns regarding the training, supervision, and utilization of special education paraeducators working in schools with challenging students. In a seminal study to determine activities and time spent on specific tasks by special education paraeducators, Giangreco and Broer (2005), found 70% designed and implemented lessons without direct supervision from a certificated teacher. This finding contrasts the intent of IDEA and ESSA, which is to ensure all students are taught by HETs so students with special needs receive the same free and appropriate public education as their non-disabled peers. With paraeducators utilized to deliver instruction, lack of adequate training, limited supervision, and little ongoing support is of particular concern as the least qualified staff, paraeducators, are working with students who exhibit the most intensive academic, social, and behavioral needs. Given the number of paraeducators working directly with students with disabilities in schools, researchers are calling for a greater emphasis on understanding
their training and supervision needs so they can implement EBPs, an activity crucial in achieving increased student learning outcomes (Giangreco, Suter, & Hurley, 2011).

**Paraeducator Supports**

Researchers noted multiple concerns with paraeducator utilization in schools and the lack of support they received when working with students with disabilities and behavioral challenges in general education settings. Through literature reviews, surveys, interviews, and classroom observations, researchers sought to better understand what supports paraeducators need to improve learning outcomes for students with disabilities. Needed paraeducator supports identified included respect, role clarity, a career ladder, administrative support, competency based training specific to student disabilities, and a voice in student decision-making processes (Azad, Locke, Downey, Xie, & Mandell, 2015; Brown & Stanton-Chapman, 2017; Douglas, Chapin, & Nolan, 2016; Fisher & Pleasants, 2012; Giangreco et al., 2001). Furthermore, paraeducators needed opportunities for active membership in student IEP teams, and teachers need to know how to provide on the job training and ongoing support through coaching and feedback (Azad et al., 2015; Douglas et al., 2015).

In an study by Fisher and Pleasants (2012) of over 1,800 paraeducators working in general and special education settings, paraeducator concerns centered on lack of appreciation, high turnover rate, lack of general education teacher involvement with students with IEPs, and lack of training to fulfill this role. In the words of one paraeducator interviewed by Fisher and Pleasants, “I feel that paraeducators are not respected when it comes to their opinions and concerns. Paras are not part of IEP sessions and are usually not given any of the instructions about the child” (p. 292).
Without needed supports, paraeducators work in isolation, are seen but not heard, and are not included in student decision-making processes as valued team members. Nowhere in schools is this truer than for paraeducators who spend 100% of their time working with students with behavioral challenges across all school settings (V. L. Walker & Snell, 2017). Alone and unsupported, it is little wonder there is such a high turnover rate and little is understood regarding paraeducator utility in achieving increased student learning and behavioral outcomes in real-world settings.

**Paraeducator supports and students with BIPs.** Although researchers investigated general supports needed to maximize paraeducator performance in schools, those studying ways to improve BIP implementation focused on paraeducator training. According to researchers, successful paraeducator trainings allow time for them to read the BIP, ask questions, practice instructional strategies, and develop mastery through modeling and performance feedback, provided as paraeducators work with the student in the classroom (Hogan et al., 2015; Madzharova et al., 2018; V. L. Walker & Snell, 2017). Furthermore, as identified in a study conducted by V. L. Walker (2017), paraeducators responsible for assisting teacher implementation of BIPs are calling for job-embedded training opportunities. Absent within the research literature, however, are studies regarding how ongoing communication between IEP team members and the paraeducator primarily responsible for implementing the BIP should be addressed. Without a plan for how the paraeducator is to be supported through ongoing IEP team communication and active involvement in IEP team processes, BIP effectiveness, and hence student learning, is compromised.
As noted by Browning Wright et al. (2013), a key indicator of a quality BIP is documentation of how communication between all involved IEP team members will occur. Lack of communication impacts fidelity of BIP implementation as there is no clear plan for how the paraeducator is to report on student progress or receive guidance and support. Researchers identified paraeducators need ongoing support in the form of job-embedded professional development, as it is this training model that affords paraeducators real-time feedback to improve their skills sets (Hogan et al., 2015; Madzharova et al., 2018; V. L. Walker & Snell, 2017).

**Challenges to Effective Paraeducator Training and Support**

Although IDEA requires paraeducators to receive ongoing training and supervision from a certificated teacher, researchers noted this practice does not reliably occur. Scheeler et al. (2018) found special education teachers were often responsible for training and supervising multiple paraeducators, which made it difficult for them to meet the IDEA mandate. Giangreco et al. (2010) found special education teachers lacked pre-service training needed for this role nor set aside sufficient time for this practice to occur. In a study conducted by Giangreco et al. (2001), paraeducator role allocation was also found to impact the level of training and supervision, with one-on-one aides working in general education classrooms receiving no direct support from the teacher. Finally, how the school day was structured further limited training opportunities, as paraeducators are only paid to work when students are present. Consequently, the most frequent forms of training afforded paraeducators by their teacher and districts is on the job or one-shot workshops known to be ineffective in transfer of EBPs to the classroom (Fisher & Pleasants, 2012; Hall et al., 2010; Joyce & Showers, 2002).
Although researchers agreed one-shot workshops were ineffective, limited information exists within the literature regarding the best way to deliver professional development to paraeducators. As noted by Giangreco et al. (2010), the field needs “more research on effective training and supervision strategies and, perhaps most important, research linked to student outcomes” (p. 53). A few studies identified that paraeducators, when adequately trained, can implement EBPs with fidelity; however, the success of professional development interventions did not include measures of change in student learning outcomes (Brock & Carter, 2015; Scheeler et al., 2018; Wright & Prescott, 2017). Although researchers are beginning to recognize which training components are the most effective in enabling paraeducator uptake of EBPs with fidelity, the research to practice gap as measured by change in student learning outcomes still needs to be addressed.

**Effective training components for paraeducators.** A review of the available research literature regarding paraeducator training on how to implement BIPs with fidelity found a scarcity of studies on this topic. To date, only three studies focused on how to train paraeducators to implement BIPs with fidelity for students with autism spectrum disorder. Consequently, for this study the researcher reviewed the few studies available for consideration, beginning with studies focused on general training approaches utilized with paraeducators and concluding with the three studies specifically addressing training paraeducators in effective BIP implementation for students with autism spectrum disorder.

Effective training components for paraeducators are beginning to be identified by researchers. In their analysis of 13 experimental studies of professional development for
paraeducators working with students with intellectual disabilities, Brock and Carter (2013) found instruction, modeling, performance feedback, and accountability effective training components, as measured by increased paraeducator fidelity of implementation. Furthermore, 10 of the 13 studies analyzed positively correlated the training intervention to improved student social, communication, academic, personal independence, and behavioral outcomes (Brock & Carter, 2013).

In a similar review of 12 experimental studies, Rispoli et al. (2011) sought to identify professional development that improved paraeducators ability to teach students with autism spectrum disorder. Like Brock and Carter, they found effective trainings incorporated one or more of the following components: written, video, or verbal instruction; practice; modeling; roleplaying; and feedback. However, unlike Brock and Carter’s findings, only six of the studies analyzed measured the success of the professional development intervention on student achievement data. Of note was the frequency of use of performance feedback in training protocols, as this component was found highly effective in training teachers. Consequently, Rispoli et al. (2011) argued future research should focus on “the use of performance feedback as the sole training procedure to identify a potentially effective and efficient means of on-the-job training for paraprofessionals working with individuals with autism spectrum disorder” (p.387). A point of agreement between both sets of researchers is the need for future research focused on identifying the training components most effective to develop professional development for paraeducators that is efficient, affordable, and results in increased student achievement in real-world settings.
Several researchers attempted to address the literature gap in respect to training components most effective in teaching paraeducators to implement EBPs with fidelity (Brock & Carter, 2015; Hogan et al., 2015; Madzharova et al., 2018; Scheeler et al., 2018; V. L. Walker & Snell, 2017; Wright & Prescott, 2017). Brock and Carter (2015), conducted a study comparing the results of paraeducator training via a one-shot workshop to training delivered via modeling and performance feedback and performance feedback alone. Their experimental study involved 25 paraeducators who worked with students with intellectual disabilities and targeted increasing their use of constant time delay, an EBP proven to increase student independence. The training package developed was titled Video Modeling Plus Abbreviated Coaching (VMPAC) and incorporated modeling, performance feedback, and accountability as the core training components. Results of VMPAC were positive with fidelity of implementation data collected by coaches as paraeducators implemented constant time delay with students in their classrooms. The most effective training component was found to be on-site coaching, followed by video modeling paired with coaching. The least effective training component was the one-shot workshop, with paraeducators who received this training demonstrating the lowest level of implementation fidelity. This study had several limitations as the training was delivered by researchers and not teachers, and data regarding impact on student learning outcomes was not collected (Brock & Carter, 2015). Nevertheless, results from this study provide strong evidence for performance feedback as a training component effective in enabling paraeducators to transfer EBPs with fidelity into the classroom.

Another effective training component investigated by Scheeler et al. (2018) was the use of bug-in-the-ear technology to deliver immediate performance feedback to
paraeducators. In this study, teachers provided immediate performance feedback to paraeducators regarding their use of contingent specific praise. Participants were two special education teachers and four paraeducators who worked with students with autism spectrum disorder. Data collection occurred remotely via researcher analysis of video recordings and was compared to baseline data taken prior to teacher implementation of the training intervention. Scheeler et al. (2018) found immediate performance feedback via bug-in-the-ear technology was successful as paraeducators increased their use of contingent specific praise from near zero at baseline to rates of one to two incidents per minute. Furthermore, the training was socially valid as participant questionnaire responses were positive. Although this study did not measure the impact on student learning and used a small sample, the paraeducators and teachers reported overall improved student behaviors during lesson delivery (Scheeler et al., 2018). Strengths of this study were in the use of teachers, not researchers, as implementers of the training intervention, paired with the setting of an actual classroom. Consequently, results of this study provided evidence of immediate performance feedback as a training component enabling paraeducators to transfer EBPs to the classroom and thus bridge the research to practice gap.

Another research model supporting paraeducator transfer of EBPs to the classroom is participatory action research. Wright and Prescott (2017) believed this training model was beneficial as it promoted self-reflection, researcher-practitioner collaboration, and implementation fidelity through practice opportunities. In this study, action research was used to evaluate a commercial training product called Rethink specifically designed to increase paraeducator skills sets in working with students with
autism spectrum disorder. Paraeducators were required to attend six 2-hour workshops, view video models of EBPs, and implement an applied practice activity with students in the classroom. Utilizing pre-post data and questionnaire responses, Wright and Prescott (2017) found paraeducator knowledge of EBPs for students with autism spectrum disorder increased as did their confidence in working with this population of students, and supervising teachers reported an overall increase in paraeducator instructional and behavioral skills in the classroom. Although this study is promising in its results, limiting factors include researcher facilitation, results measured by participant report only as opposed to observational data collected in the classroom, and critically, no linkage to increased student achievement. Although professional development training programs such as Rethink exist, field testing regarding their efficacy in respect to student learning outcomes is limited.

Hogan et al.’s (2015) study is relevant as it focused on the use of behavior skills training (BST) to teach paraeducators correct BIP implementation for students with autism spectrum disorder and developmental disabilities. BST utilizes instruction paired with modeling, rehearsal, and feedback delivered by coaches working with educators in vivo, that is while working with students in classrooms. This study looked to discretely analyze training components by implementing BST in two phases. Phase one involved providing paraeducators with instruction only regarding how to implement BIPs, whereas phase two added the training components of modeling, rehearsal, and feedback (Hogan et al., 2015). Strengths of this study’s design include the use of direct observation to evaluate paraeducator fidelity of BIP implementation and comparative analysis of BST training components. Hogan et al. (2015) found the training components of modeling
and rehearsal most effective in increasing paraeducator fidelity of BIP implementation, and BST was cost effective due to the brief amount of time for mastery criteria to be met. Hogan et al.’s findings regarding the superiority of modeling, rehearsal, and feedback provided in vivo over instruction only was consistent with the work of Joyce and Showers (2002). Their theoretical framework contended training via instruction, demonstration, and practice only resulted in transfer to teacher practice in the classroom when peer coaching was added. However, the Joyce and Showers study was limited due to researcher facilitation and no direct linkage to student achievement.

**Paraeducator Training to Improve Fidelity of BIP Implementation**

Weekly coaching paired with two workshops was selected by V. L. Walker and Snell (2017) as the primary training component to be utilized in improving paraeducator fidelity of BIP implementation. This study involved training three paraeducators responsible for implementing BIPs for students with autism spectrum disorder and intellectual disability, two of whom were placed in general education classrooms. Direct observation of both paraeducator and student behaviors and survey responses were used to answer the research questions. The first workshop consisted of teaching paraeducators on how FBAs and BIPs are developed. This involved viewing student videos, identifying the function of the behavior, and then determining appropriate replacement behaviors and exploring strategies for teaching them. The second workshop utilized modeling, role play, and discussion of student videos to teach BIP strategies such as prompt fading, choice-making opportunities, and first-then schedules to teach functionally equivalent replacement behaviors. Initial workshops were followed with 30-minute weekly coaching sessions, which involved the researcher and paraeducator discussing videos of
their BIP implementation and student behavioral data, and modeling and role playing to improve paraeducator skills. Outcomes included increased paraeducator fidelity of BIP implementation from an average of 5% at baseline to 93% during the intervention, and increasing student use of appropriate behaviors and decreasing incidents of challenging behaviors. Additionally, all three paraeducators found the workshop plus coaching model acceptable and effective to improve their ability to change student behavior (V. L. Walker & Snell, 2017).

To identify the most effective training components within the BST protocol, Madzharova et al. (2018) selected modeling and feedback only to train three classroom staff on how to use a BIP for a student with autism spectrum disorder. This BIP utilized differential reinforcement of omission of target behaviors to address the student’s behavioral excesses such as biting, hitting, screaming, and kicking. Classroom staff comprised of a teacher, speech therapist, and paraeducator used a token system to reinforce the absence of aggressive acts by the student across three 10-minute trials. Skills required of staff to implement the BIP with fidelity included correct use of token reinforcement, use of student praise for pro-social behaviors, verbal reminders regarding rules, incentives, consequences using a neutral voice tone, and ignoring acts of aggression. Classroom staff received training from researchers while working with their student across a variety of school settings. This involved performance feedback, answering staff questions, and researcher modeling of correct BIP implementation. Study results found modeling and feedback effective with staff needing only 60-90 minutes of training over 1-2 days to reach fidelity of BIP implementation (Madzharova et al., 2018). Study limitations included no data collection regarding change in student
behavior and researcher facilitation, whereas a strength was the training paraeducators received across a variety of school settings and not just the classroom.

In summary, this section of the literature review investigated the changing role and increasing numbers of paraeducators in schools, how teachers are inadequately prepared to train and supervise them, and ongoing concerns that students with disabilities are taught by untrained paraeducators in an unsupervised capacity. This section also detailed the kinds of support needed by paraeducators, including active membership in IEP plan teams and job embedded professional development, and specifically their training and support needs in relation to fidelity of BIP implementation for students with autism spectrum disorder. This section highlighted how IEP teams in the BIP development process overlook communication as the sixth key element of a quality BIP, resulting in paraeducators not receiving needed training and support from their supervisors. Finally, this section concluded with an overview of research regarding current practices in professional development for paraeducators, with an emphasis on the few studies available relating to improving paraeducator implementation of BIPs for students with autism spectrum disorder.

Conclusions and Research Gap

In summation, the literature pointed to several concerns regarding the training and supports available to paraeducators primarily responsible for implementing BIPs with students with autism spectrum disorder. As noted by Brock and Carter (2013), research regarding training programs for paraeducators fails to analyze individual components, is typically focused on one specific instructional strategy to be used with a particular student, and involves researchers in the role of primary trainer and support for
paraeducators. Consequently, study results are not applicable in real world settings where paraeducators are often given broad assignments with little training or in the moment support from their schools and supervising teachers (Brock & Carter, 2013). Furthermore, most research on paraeducator implementation of BIPs is conducted in classrooms and fails to address how paraeducators should implement BIPs with fidelity across the varied school settings in which they work with students. Given the lack of research regarding paraeducator implementation of BIPs for students with autism spectrum disorder, with only three studies identified to date, paired with the literature gap regarding BIP implementation across varied school settings, a better understanding is needed of how schools and teachers can effectively train and support paraeducators who implement BIPs for students with autism spectrum disorder in real-world settings.
CHAPTER III: METHODOLOGY

Chapter III details methods used in this study to identify and describe the training and support paraeducators working with students with autism spectrum disorder in elementary school settings receive as they implement behavior intervention plans (BIPs) based on the Browning-Wright et al. model. Chapter III began with the purpose statement and research questions to establish the significance of this study, followed by a description of the research design, population, sample, instruments, and methods of data collection and analysis. Chapter III concludes with a discussion of study limitations and a content summary.

Purpose Statement

The purpose of this convergent mixed methods study was to describe the training and support paraeducators who work with students with autism spectrum disorder received as they implemented behavior intervention plans (BIPs) based on the Browning-Wright, Mayer, and Saren model. Additionally, this study sought to describe the training and support challenges experienced by paraeducators who work with students with autism spectrum disorder. Lastly, this study provided recommendations for training and support from paraeducators who work with students with autism spectrum disorder as they implemented BIPs.

Research Questions

The following research questions guided the study:

1. What training did paraeducators identify and describe as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder?
2. What support experiences did paraeducators identify and describe as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder?

3. What training and support challenges did paraeducators who worked with students with autism spectrum disorder experience as they implemented BIPs based on the Browning-Wright et al. model?

4. What are paraeducators recommendations for training and support based on their work with students with autism spectrum disorder as they implement BIPs based on the Browning-Wright et al. model?

**Research Design**

This study used a convergent mixed methods design, which Creswell and Plano-Clark (2018) defined as, “a mixed-method design in which the researcher collects and analyzes two separate databases—quantitative and qualitative—and then merges the two databases for the purposes of comparing or combining results” (p. 68). Additionally, this research design allows for side-by-side analysis of both quantitative and qualitative data to fully understand a phenomenon (Bazeley, 2002; Patton, 2015). Whereas a quantitative approach uses statistical analysis of numerical data to answer research questions, a qualitative approach uses interviews, field observations, and artifacts to record people’s stories and determine how context and systems impact their lives (Patton, 2015). A key benefit of combining methods is qualitative data allows the researcher to explore in greater detail quantitative trends identified during the initial phase of the study (Creswell & Creswell, 2018). In this research study, quantitative data were collected via survey and directly followed by qualitative data collection via participant interview. As explained by
Creswell and Plano-Clark (2018), a convergent design is generally used where, “the researcher has limited time for collecting data in the field and must gather both types of data in one visit” (p. 68). After reviewing a number of possible research designs, this design was determined to be the best fit as both demographic and data pertaining to the research questions could be collected via survey from the sample, with immediate follow-up interview questions to obtain more in-depth answers. Figure 1 illustrates the organization of this mixed methods study.

**Figure 1.** Organization of this mixed methods study.

**Quantitative Research Design**

McMillan and Schumacher (2010) described quantitative research as an impartial approach utilizing numerical data to understand subject matter examined. It encompasses either an experimental or quasi-experimental design enabling numerical data obtained from the sample to be generalized to larger groups (McMillan & Schumacher, 2010). This study used a non-experimental design, as a survey of the sample was selected as the most efficient means of obtaining both demographic data and data relevant to the research questions posed in this study. According to Patton’s (2015) explanation of a
quantitative paradigm, the subject matter does not exist until it is first measured. In this study, the subject matter measured was paraeducator demographics and the degree of training and support paraeducators experienced when implementing BIPs for students with autism spectrum disorder. This researcher selected survey research for the first phase of this study as this approach afforded a quick and efficient way of identifying numerical trends to address Research Questions 1, 2, and 4.

**Qualitative Research Design**

Patton (2015) described qualitative research as a scientific process of inquiry, the intended goal of which is to better understand individuals or communities lived experiences as they relate to the subject matter under investigation. In this study, the subject matter under investigation was training and support related to paraeducator implementation of BIPs for students with autism spectrum disorder in elementary school settings. Consequently, qualitative inquiry was selected as the most appropriate approach. According to Patton (2015), it is used to discover how things work, for recording people’s stories to learn from their experiences, for analyzing how systems impact people’s lives, for examining the context of people’s lived experiences (e.g., culture, politics, history), and for identifying unintended consequences.

By conducting in-depth interviews, this study sought to document the kinds of training, supports, and challenges experienced by paraeducators working with students with autism spectrum disorder and BIPs in elementary school settings, and their recommendations for effective BIP implementation. As noted by Patton (2015), interviews use open-ended questions to obtain detailed information regarding people’s first-hand accounts, views, thoughts, and feelings about the subject matter. In selecting a
convergent mixed-methods design, the qualitative data enabled a direct comparison to the quantitative data to gain a greater understanding of the research problem. Furthermore, in selecting a qualitative approach, paraeducators were afforded the opportunity to share their personal experiences and recommendations regarding effective BIP implementation for students with autism spectrum disorder, which survey data did not allow. Finally, merging interview responses with survey results allowed for triangulation, which is a key strength of a convergent mixed-method design (Creswell & Plano-Clark, 2018).

**Population**

According to McMillan and Schumacher (2010), a population “is a group of elements or cases, whether individuals, objects, or events, that conform to specific criteria” (p. 129). Similarly, Creswell and Guetterman (2019) described a population as a group of individuals having one characteristic differentiating them from other groups. In research, it is important to note the study population as it is to this group results may be generalized. For this study, the intended population was the 80,000 paraeducators employed to work in kindergarten through to grade 12 public schools in the state of California, as reported by the California Department of Education (CDE) for the 2017-18 school year.

**Target Population**

McMillan and Schumacher (2010) indicated it is not feasible for a researcher to investigate the entire population for a study. Consequently, a smaller number of participants is selected to whom study results may be generalized. This smaller set of participants is referred to as the target population and was defined by Creswell and Guetterman (2019) as persons who meet set criteria and are directly accessible to the
researcher. For this study, the following criterion was used to establish the target population: paraeducators who work in elementary schools with students with autism spectrum disorder and a BIP for at least 50% of their workday. Merriam and Tisdell (2016) stated purposeful sampling enables the researcher to “discover, understand, and gain insight and therefore…select a sample from which the most can be learned” (p. 96). Although this researcher attempted to quantify the target population for this study, after an extensive review of various state and county information systems, the number of paraeducators in elementary schools who work with students with autism spectrum disorder and BIPs for at least 50% or more of their day was not able to be obtained. However, a target population was established by utilizing the CDE Data Partnership webpage to hand calculate the number of paraeducators employed in elementary schools for the 2017-18 school year. This researcher determined there were a total of 179 paraeducators working across 41 elementary schools located in Sutter and Yuba Counties. Additionally, the researcher accessed the CDE Special Education Division to calculate the number of elementary aged students with autism spectrum disorder in Sutter and Yuba Counties for the year 2018, which was 293.

Sample

The target population was selected from the broader population utilizing a more specific set of characteristics via a process known as purposeful sampling. In this study, the specific characteristics used were paraeducators who worked in elementary schools with students with autism spectrum disorder and a BIP for at least 50% of their day. Purposeful sampling was used along with convenience sampling, which allows
researchers to select participants based upon proximity of location, availability, and access via known gatekeepers (Merriam & Tisdell, 2016).

Convenience sampling, where participants are selected according to convenience and availability (Creswell & Creswell, 2018), enabled this researcher to identify the number of participants necessary to conduct this study. Additionally, sampling by intense case type with case being defined by McMillan and Schumacher (2010) as, “an in-depth analysis of a phenomenon and not the number of people sampled” (p. 327), was used due to the unique characteristics required of participants to address the purpose of this study. Finally, as classrooms for students with autism spectrum disorder are not located on all elementary school sites, this study surveyed paraeducators who work in elementary schools located in two contiguous counties in northern California. This process of convenience sampling created a manageable sample size and afforded ease of access as schools were close to the researcher’s place of work. According to McMillian and Schumacher (2010), “qualitative samples can range from 1 to 40 or more” (p. 328). Creswell and Poth (2018) suggested a range of 3-10 participants for phenomenology and Merriam and Tisdell (2016) considered saturation a key issue to determine a sufficient sample size. They suggested the sample size was met when saturation occurs and no new information is forthcoming through the data collection procedures. Consequently, based on these research sample guidelines, a sample of 12 paraeducators was determined to be a sufficient for this study.

Volunteer participants to complete both the survey and interview were identified at the time of initial contact. McMillan and Schumacher (2010) noted a disadvantage of volunteer sampling is that participants may not be representative of the larger group due
to a higher likelihood of being well-educated, more outgoing, less conforming, and more likely to want to please others. Consequently, findings may not be representative of the entire population due to selection bias in using volunteer paraeducators. Figure 2 presents the population, target population, and sample used for this study.

Figure 2. Population, target population, and sample for this study.

**Quantitative Sampling**

Participants had to be paraeducators who worked in elementary schools with students with autism spectrum disorder and a BIP for at least 50% of their day. Consequently, sampling by intense case type was used to obtain detailed information about this group of individuals. Although the target population was 12 paraeducators from two contiguous counties in northern California, survey participants were selected using convenience sampling, which targeted paraeducators in close proximity to this researcher’s place of work, Yuba County Office of Education.

To identify survey participants, county and district superintendents and special education administrators were contacted to obtain lists of paraeducators meeting the
study criteria. Responses from these gatekeepers helped identify a sample size of 12 paraeducators.

**Qualitative Sampling**

Qualitative data collection began immediately after paraeducators completed the survey instrument. Paraeducators who expressed interest in being interviewed at the time of initial contact were selected as key informants. As defined by Patton (2015), “Key informant interviews are widely used to identify trends and future directions…and provide valuable expertise on and insights into the root of problems” (p. 284).

For this study, 12 paraeducators were given the opportunity to provide in-depth insight, which Patton (2015) referred to as information rich cases due to their personal experiences. Creswell and Creswell (2018) suggested a range of 3-10 participants is a sufficient sample size. (2015) stated, “Sample size depends on what you want to know, the purpose of the inquiry, what’s at stake, what will be useful, what will have credibility, and what can be done with the available time and resources” (p. 311). Of the 12 quantitative participants, 11 agreed to elaborate on their experiences in a follow-up interview at the time of initial contact. This number was as an appropriate qualitative sample size to obtain detailed answers to the research questions. The 11 volunteer participants were interviewed after completing the survey.

**Instrumentation**

This convergent mixed methods study used one quantitative and one qualitative instrument to collect data. Survey data were collected in-person at a location convenient to the participant and immediately followed by interviews. The use of same day data collection across quantitative and qualitative instruments was intentional, as it enables
researchers to “integrate the information in the interpretation of the overall results” (Creswell & Creswell, 2018, p. 15) and provided a complete picture of the research problem being studied (McMillan & Schumacher, 2010).

**Quantitative Instrumentation**

Surveys afforded an efficient means of obtaining demographic data and the ability to identify numerical trends relevant to the research questions posed (Creswell & Guetterman, 2019). After a thorough study of the Browning-Wright et al. (2013) *Behavior Intervention Plan Quality Evaluation Guide* and an extensive review of the literature, this researcher developed a survey titled Paraeducator Training and Support for Effective BIP Implementation (Appendix C). This survey addressed each of the six key components of the BIP model: behavior function, situational specificity, needed environmental changes and instructional strategies to teach new behaviors, reinforcement strategies, reactive strategies, and IEP team communication.

As this survey instrument was researcher developed, the researcher provided increased validity and trustworthiness to the survey by having two experts in behavior interventions review the survey and compare it to the Browning-Wright et al. BIP model. This was achieved through consultant review by two the experts, Dianna Browning-Wright who co-authored the BIP model and Denise Keller who provided input. Based on expert input and feedback, necessary adjustments to the final survey were made. The following presents Browning-Wright and Keller’s credentials and experience, which made them uniquely qualified to validate this survey instrument.

Browning-Wright, co-author of the BIP model, is a licensed educational psychologist, behavior analyst, and teacher with over 35 years of experience in classroom
teaching, assessment, and consultation services. She consults with California educators as the Director of CDE’s Diagnostic Center and southern California’s initiative, Positive Environments, Network of Trainers (PENT). She directs the PENT research team, which publishes articles on BIP quality and training issues. She taught school psychology and behavior analysis at state universities and continues annual advanced behavior analysis seminars for graduate students at Cal State Los Angeles. Additionally, she holds a certificate in ABA and is the lead author and editor of three editions of the CDE manual on severe behavior, *Positive Interventions for Serious Behavior*. She is also the author of *Tools to Develop, Implement and Score a Behavior Support Plan*; co-author of the *Guidelines for Developing Behavior Goals for Progress Monitoring*, and co-author of the *Behavior Support Plan Quality Evaluation Guide*.

Keller is a member of the PENT leadership team and provided input on the BIP model. She received a master’s degree in counseling from Sonoma State University and board certification in behavior analysis from the University of North Texas. She worked as a behavior specialist for the Mendocino County Office of Education where her duties included developing and conducting training for school site personnel in FBA, behavioral support and intervention strategies, and development and implementation of positive BIPs. She also provides consultation and training on ABA, autism, EBPs for autism, positive behavioral intervention and supports, and functional analysis. She also worked as a behavior consultant for Non-Public Agencies, providing home-based early intervention programs to families of children with autism spectrum disorder.

The survey used for this study encompassed four parts (Appendix C). The first part collected background information, the second asked paraeducators to identify their
general preferences regarding training formats, the third utilized a 4-point Likert scale to ask about their degree of BIP understanding and training, and the fourth asked paraeducators about their experiences with BIP training and supports when implementing BIPs with students with autism spectrum disorder. The statements in Part 4 were developed to align with the Browning-Wright et al. (2013) BIP model.

**Qualitative Instrument**

As quantitative data are limited in terms of depth of information obtained, a follow-up qualitative instrument was used to address the research questions in greater detail. Qualitative interview questions addressed each of four research questions and broadly aligned with the six key components of the Browning-Wright et al. (2013) BIP model (Appendix D). In addition, this researcher utilized an interview guide (Appendix E), paired with semi-structured questions, to enable paraeducators to share their lived experiences of implementing BIPs with students with autism spectrum disorder.

**Participant Interview Guide**

For this study, an interview guide (Appendix E) was developed with semi-structured questions regarding paraeducator experiences, challenges, and recommendations in implementing BIPs for students with autism spectrum disorder. Included in the interview guide was an overview of the six key components of the Browning-Wright et al. (2013) BIP model, an explanation of key terms, and an illustrative example. Each of the six key components was addressed using paraeducator-friendly language to ensure comprehension of the BIP model prior to formal interview questions being asked. This researcher conducted the interviews with 11 paraeducators.
who, upon initial contact by this researcher, volunteered to participate in both the survey and interview portion of this study.

Interviews began with a brief explanation of the study by the researcher, review of the Participant’s Bill of Rights, and written consent prior to conducting the survey and interviews. Additionally, the interview guide and semi-structured questions were provided to participants at the time of the interview. Although interviews are an intensive approach to gathering information, this was selected to stimulate paraeducator stories regarding their experience of being trained and supported in implementing BIPs with students with autism spectrum disorder. As noted by Patton (2015), “Open ended interviews add depth, detail, and meaning at a very personal level of experience” (p. 24). Paraeducator interview responses allowed for a deeper insight into their training, support, challenges, and recommendations regarding BIP implementation with students with autism spectrum disorder.

**Researcher as an Instrument**

The desire to further understand paraeducator experiences of working with students with autism spectrum disorder and BIPs stemmed from the researcher’s educational background, which includes working with students with autism spectrum disorder as a paraeducator, special education teacher, and principal of special day class programs. Given this background, this researcher needed to remain mindful of potential biases in data interpretation and the necessity to refrain from sharing her own stories while listening to participants retell theirs. As noted by McMillan and Schumacher (2010), the researcher must remain mindful of his or her conduct as this may affect participant responses. To better understand inherent biases in selecting a research topic
of personal interest, as advised by Mills (2007), the researcher created a list of propositions that might be learned from this study, thus providing “a window into the belief system and personal biases that can, and often do, creep into the investigation” (p. 97). Furthermore, it was imperative the researcher maintain close adherence to the methodology and field-testing protocols to minimize biases that could occur during the data collection process. As noted by Patton (2015), the credibility of collected qualitative data is wholly dependent upon the competence and objectivity of the researcher.

**Reliability and Validity**

As noted by Creswell and Creswell (2018), when a mixed method approach is used, validity of both quantitative and qualitative data collection instruments must be considered. In this study, two data collection instruments were used, the quantitative survey and the qualitative interview. According to Creswell and Creswell (2018), validity in the context of quantitative research “depends on careful instrument construction to ensure that the instrument measures what it is supposed to measure” (p. 22). Steps followed to ensure validity of the survey instrument were:

- Expert validation of survey instrument provided by co-author and input provider of BIP model and modification based on their feedback to ensure content alignment with the subject matter under
- Field testing and modification based on feedback from practice participants
- Strict adherence to research protocols

When using a convergent design, the purpose is “to obtain different but complementary data on the same topic” to fully comprehend the subject being investigated (Morse, 1991, as cited by Creswell & Plano-Clark, 2018, p. 68).
Consequently, participant interviews were audio-recorded to correctly document responses and interview transcripts were reviewed by participants to confirm accuracy of content. Additionally, to ensure alignment and establish content validity, it was important to align all survey items with the research questions posed in this study. Appendix B displays the alignment of content validity in a matrix.

Roberts (2010) defined reliability as “the degree to which your instrument consistently measures something from one time to another” (p. 151). To ensure reliability of results, data were triangulated across two sources, surveys and interviews. Additionally, for both the quantitative and qualitative instruments, questions were developed based upon alignment with the Browning-Wright et al. (2013) BIP model. Field testing occurred to verify the reliability of the survey and interview questions and a script was used during the interview process to promote consistency of data collection. Once interview transcripts were available, participants were asked to review the data to verify content. Finally, when coding data for trends and themes, a doctoral-level person knowledgeable in qualitative analysis was enlisted to establish inter-rater reliability.

Field Testing

As noted by Creswell and Creswell (2018), field testing establishes “content validity of scores on an instrument to provide an initial evaluation of the internal consistency of the items and to improve questions, format and instructions” (p. 154). The researcher developed two instruments to address the purpose of this study, the survey and a set of follow-up interview questions. Both tools were developed to align with the Behavior Intervention Plan Quality Evaluation Scoring Guide developed by Browning-Wright et al. (2013). Steps utilized in field testing the pilot survey were:
• Completion by three volunteer paraeducators experienced at working with students with autism spectrum disorder and BIPs
• Feedback obtained using survey feedback reflection questions (Appendix H)
• Pilot survey modification based upon paraeducator feedback

Steps utilized in field testing the interview protocol and script were:

• Mock interview conducted with one volunteer participant, in the presence of an observer who was a doctoral student with expertise in behavioral interventions
• Feedback regarding interview process obtained from volunteer participant utilizing interview feedback reflection questions (Appendix I)
• Interview questions revised based upon volunteer participant feedback
• Feedback from the observer regarding biased behavior and delivery of interview questions was taken into consideration
• Triangulation and reliability were addressed via recording paraeducator interviews and providing transcripts for their review

**Data Collection**

Data collection did not commence until all necessary steps to protect participants from potential harm were taken. This involved completing training in how to conduct research on human participants (Appendix J), obtaining approval for this study through the Brandman University Institutional Review Board ( Appendix K), and ensuring participants were fully informed of their rights as volunteers prior to giving signed consent. This written consent form detailed the study purpose, how participant confidentiality throughout the data collection and reporting process would be protected,
and how data would be used. Participant consent was also obtained before audio recording interviews. Finally, collected data throughout the duration of this study were stored on a password protected computer or in a locked cabinet to which only the researcher had access.

**Quantitative Data Collection**

Phase one of this study involved collecting quantitative data in the form of a survey from 12 paraeducators who work with students with autism spectrum disorder and BIPs in elementary schools for at least 50% of their workday. The process for contacting the sample paraeducators and collecting data was:

- The researcher contacted known gatekeepers (e.g., district superintendents) located in Sutter, Butte, and Yuba Counties via e-mail to explain the purpose and benefits of the study, and request their assistance in providing contact details of special education administrators with knowledge of paraeducators who work with students with autism spectrum disorder (Appendix L).

- The researcher contacted special education administrators by e-mail and phone to explain the purpose and benefits of the study and request their assistance in providing the contact details of paraeducators who met the study criteria (Appendix M).

- The researcher contacted paraeducators (with consent from district superintendents/special education administrators) by e-mail and phone to explain the purpose, benefits, and risks of participating in the study. Terms of anonymity were explained and questions answered. A letter of explanation was e-mailed to paraeducators prior to a phone call (Appendix N).
• Once participant consent was obtained, the researcher scheduled a 35-minute meeting with each paraeducator. Survey completion and interviews occurred at a time and location convenient to each paraeducator in a setting where confidentiality could be maintained.

• At the time of the survey and interview, paraeducators were provided an invitation to participate letter (Appendix N), Research Participant’s Bill of Rights (Appendix F), and informed consent and audio release form (Appendix G) to be signed and collected at the time of data collection.

• Additionally, volunteer participants for the interview portion were provided with the participant interview guide (Appendix E).

The survey phase of data collection included a statement regarding the purpose of the study, instructions for how to complete the survey, and a set of questions specific to research questions posed in this study. Prior to taking the survey, paraeducators were asked to read and sign the informed consent and audio release form (Appendix G). An approximate timeline of five minutes for survey completion was needed, which was immediately followed by a 30-minute interview.

**Qualitative Data Collection**

Qualitative data collection involved in-depth interviews with 11 of the 12 paraeducators surveyed. Paraeducators agreed to participate in both the survey and interview at the time of initial contact by the researcher. Only one paraeducator declined to be interviewed but agreed to take the survey. Interviews were conducted to obtain detailed information regarding the training, support, challenges, and recommendations of paraeducators responsible for implementing BIPs with students with autism spectrum
disorder. In keeping with a convergent mixed methods design, interviews took place immediately following survey completion. Interviews lasted on average 30 minutes and to ensure validity and reliability, an interview guide was provided to support comprehension (Appendix E). Additionally, each interview was recorded using two separate devices to ensure accuracy and transcriptions were given to participants for their review and feedback to further ensure content accuracy. Additional feedback provided by participants was included in the final data.

**Data Analysis**

This mixed method study followed a convergent design, which entailed concurrent data collection with separate analysis of each instrument used. Following completion of survey and interview, quantitative data were analyzed first followed by interview transcription and analysis of qualitative data. An overarching analysis was then conducted to merge and triangulate results to interpret and explain study findings.

**Quantitative Data Analysis**

Quantitative results acquired from the survey enabled this researcher to complete a thorough data analysis. Descriptive statistics were used to characterize the data. According to McMillan and Schumacher (2010), “Descriptive statistics is the most fundamental way to summarize data, and it is indispensable in interpreting the results of quantitative research” (p. 149).

McMillan and Schumacher (2010) explained descriptive statistics involve measures of central tendency, which include the mean, median, and mode. The mean is the most frequently used mode for calculating a measure of central tendency and represents the overall average. The median is calculated when numbers in the data set are
highly skewed or the data are ordinal and is the middle score in a rank-ordered
distribution. The mode is the number that appears most often in the data and is useful
when a researcher wants to know the most common score within a data set. For this
study, this researcher used the mean to analyze the survey data.

**Qualitative Data Analysis**

Once the quantitative data analysis was completed, this researcher conducted a
qualitative analysis of interview data. As discussed by McMillan and Schumacher
(2010), this process involves examination of a data set, which is then converted into
themes. This required transcripts of paraeducator interviews to be compiled from the
audio recordings and then shared for their review for content accuracy. The next step
involved coding for themes prior to in-depth analysis. As defined by McMillan and
Schumacher (2010), “A code is a name or phrase that is used to provide meaning” (p.
371). NVivo, a qualitative data analysis software program, was used as an efficient
means of analyzing data obtained through interviews. Data were inputted into the
program and used to identify key themes. Themes identified were reviewed, compiled
into a master list, and aligned with the research questions. Data from both quantitative
and qualitative analysis were compared and triangulated, along with the extensive
literature review, to derive study findings and conclusions.

**Triangulation of Data**

Researchers discuss data triangulation in the context of improving validity and
reliability of study findings (Creswell & Creswell, 2018; McMillan & Schumacher, 2010;
Patton, 2015). It occurs when more than one method of inquiry is used or more than one
data source is examined (McMillan & Schumacher, 2010). In this study, triangulation of
data was achieved through researcher selection of a mixed methods approach, as both quantitative and qualitative instruments were used to obtain data. The data, acquired through participant survey and interviews, were analyzed to determine trends and themes, and cross-referenced with the literature review discussed in Chapter II as a means of further substantiating study findings. As stated by Creswell and Creswell (2018), evidence gathered from different sources enables triangulation of the data, especially when trends and themes identified from multiple sources are used to build a coherent justification.

**Limitations**

Roberts (2010) discussed limitations as factors over which the researcher has no control and adversely affect study findings. By honestly stating limitations, the researcher enables the reader to make an informed decision regarding the credibility of collected data and study findings. In this study, the following limitations are noted:

- Sample bias, as participants were volunteers
- Researcher bias, as the researcher was the key instrument in developing and administering survey and interview questions
- Truthfulness of participant response, as data were solely based on self-report
- Inability to generalize findings to the larger population as only a small sample size was selected
- Time, as participant’s work schedule limited availability to after work hours
- Researcher’s limited experience in using a mixed methods approach, addressed through expert oversight by committee members
As this researcher holds a county wide position as principal of preschool special
day class programs, which involves supervising paraeducators, it is important to note
paraeducators involved in this study were not involved with the researcher in any
capacity.

Summary

The purpose and research questions pertaining to this study were investigated
using a convergent mixed methods design. As discussed in Chapter III, the convergent
design aligned to the purpose of the study and answered the research questions using a
survey followed by interviews with volunteer paraeducators who work with students with
autism spectrum disorder and BIPs in elementary schools. This chapter also detailed the
population, target population, and sample, as well as sampling techniques utilized in
selecting study participants. Additionally, this chapter included detailed descriptions of
both the quantitative (survey) and qualitative instrument (interview) used. In the data
collection and analysis sections, the purpose of this study and related research questions
were examined and addressed. Finally, this chapter detailed study limitations.
CHAPTER IV: RESEARCH, DATA COLLECTION, AND FINDINGS

Chapter IV outlines the findings from the study. The purpose statement and research questions are reviewed, followed by a discussion on the population, sample, and participant demographics. Presenting the data findings is the predominant focus of this chapter—specifically, quantitative and qualitative data describing the training and support paraeducators who work with students with autism spectrum disorder received as they implemented behavior intervention plans (BIPs) based on the Browning-Wright et al. model. Furthermore, findings in this chapter detail paraeducator recommendations for training and support based on their work with students with autism spectrum disorder as they implemented BIPs. Finally, this chapter concludes with a summary of findings.

Purpose Statement

The purpose of this convergent mixed methods study was to describe the training and support paraeducators who work with students with autism spectrum disorder received as they implemented behavior intervention plans (BIPs) based on the Browning-Wright, Mayer, and Saren model. Additionally, this study sought to describe the training and support challenges experienced by paraeducators who work with students with autism spectrum disorder. Lastly, this study provided recommendations for training and support from paraeducators who work with students with autism spectrum disorder as they implemented BIPs.
Research Questions

The following research questions guided the study:

1. What training did paraeducators identify and describe, as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder?

2. What support experiences did paraeducators identify and describe, as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder?

3. What training and support challenges did paraeducators, who worked with students with autism spectrum disorder, experience as they implemented BIPs based on the Browning-Wright et al. model?

4. What are paraeducators recommendations for training and support, based on their work with students with autism spectrum disorder as they implement BIPs based on the Browning-Wright et al. model?

Research Methods and Data Collection Procedures

This study used a convergent mixed methods design. In this study, quantitative data were collected via survey, followed by qualitative data collection via interview. The researcher administered 12 surveys to paraeducators identified as meeting the criteria set for this study, namely paraeducators who work in elementary schools with students with autism spectrum disorder and a BIP for at least 50% of their workday. At the time of initial contact by this researcher, 12 paraeducators agreed to complete the survey and 11 agreed to participate in follow up, in-depth interviews. Interviews were conducted and
recorded in the location most convenient for each paraeducator, with their full informed consent. Collected data for the study were stored securely by the researcher.

Population

For this study, the population was 80,000 paraeducators employed to work in kindergarten through to grade 12 public schools in California. The following criterion was used to establish the target population: paraeducators who work in elementary schools with students with autism spectrum disorder and a BIP for at least 50% of their workday. Although the researcher attempted to quantify the target population for this study, after an extensive review, the number of paraeducators in elementary schools who work with students with autism spectrum disorder and BIPs for at least 50% or more of their day was unable to be obtained. However, the researcher established target population parameters by utilizing the CDE Data Partnership webpage to hand calculate the number of paraeducators employed in elementary schools for the 2017-18 school year, which was 179 working across 41 elementary schools located in Sutter and Yuba Counties. Additionally, the researcher accessed the CDE Special Education Division to calculate the number of elementary aged students with autism spectrum disorder in Sutter and Yuba Counties for the year 2018, which was 293.

Sample

Purposeful sampling and convenience sampling were utilized to identify the number of participants necessary to conduct this study. From the target population of 179 paraeducators in elementary schools across Sutter and Yuba Counties, 12 were identified as paraeducators meeting the study criteria and who volunteered to participate in this study.
Demographic Data

The study included 12 participants located across six elementary school sites. Specific demographic information was collected to describe participants, including years of experience working in the field as a paraeducator, number of years working with students with autism spectrum disorder, gender, and level of education. Although one participant served as a paraeducator for less than a year, most were paraeducators for six or more years. This was similar for years working with students with autism spectrum disorder, with only two having less than one year of experience. All participants were female, half had some college training, three completed high school, three eared a college degree (AA or BA). Table 1 represents the demographic data describing each participant, identified with numbers from 1 to 12.

Table 1

Participant Demographics

<table>
<thead>
<tr>
<th>Participant Number</th>
<th>Years Exp.</th>
<th>Years ASD</th>
<th>Gender</th>
<th>Education Level</th>
<th>County</th>
<th>School District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 1</td>
<td>1-5</td>
<td>≤1</td>
<td>Female</td>
<td>High School</td>
<td>Yuba</td>
<td>Plumas Lake</td>
</tr>
<tr>
<td>Participant 2</td>
<td>6-10</td>
<td>6-10</td>
<td>Female</td>
<td>BA</td>
<td>Yuba</td>
<td>Plumas Lake</td>
</tr>
<tr>
<td>Participant 3</td>
<td>1-5</td>
<td>1-5</td>
<td>Female</td>
<td>AA</td>
<td>Yuba</td>
<td>Wheatland</td>
</tr>
<tr>
<td>Participant 4</td>
<td>1-5</td>
<td>1-5</td>
<td>Female</td>
<td>High School</td>
<td>Yuba</td>
<td>Wheatland</td>
</tr>
<tr>
<td>Participant 5</td>
<td>≤1</td>
<td>≤1</td>
<td>Female</td>
<td>BA</td>
<td>Yuba</td>
<td>Wheatland</td>
</tr>
<tr>
<td>Participant 6</td>
<td>6-10</td>
<td>6-10</td>
<td>Female</td>
<td>Some college</td>
<td>Yuba</td>
<td>Marysville</td>
</tr>
<tr>
<td>Participant 7</td>
<td>6-10</td>
<td>6-10</td>
<td>Female</td>
<td>High School</td>
<td>Sutter</td>
<td>Yuba City</td>
</tr>
<tr>
<td>Participant 8</td>
<td>≥16</td>
<td>11-15</td>
<td>Female</td>
<td>Some college</td>
<td>Sutter</td>
<td>Yuba City</td>
</tr>
<tr>
<td>Participant 9</td>
<td>≥16</td>
<td>≥16</td>
<td>Female</td>
<td>Some college</td>
<td>Yuba</td>
<td>Wheatland</td>
</tr>
<tr>
<td>Participant 10</td>
<td>6-10</td>
<td>6-10</td>
<td>Female</td>
<td>Some college</td>
<td>Yuba</td>
<td>Wheatland</td>
</tr>
<tr>
<td>Participant 11</td>
<td>≥16</td>
<td>≥16</td>
<td>Female</td>
<td>Some college</td>
<td>Yuba</td>
<td>Wheatland</td>
</tr>
<tr>
<td>Participant 12</td>
<td>≥16</td>
<td>6-10</td>
<td>Female</td>
<td>Some college</td>
<td>Yuba</td>
<td>Marysville</td>
</tr>
</tbody>
</table>
Presentation and Analysis of Data

Survey and interview data were collected to identify and describe the training and support paraeducators who work with students with autism spectrum disorder received as they implemented BIPs based on the Browning-Wright et al. model. Twelve surveys were completed along with 11 follow-up interviews. Research Questions 1, 2, and 4 were addressed by parts A, B, and C of the survey data, and all four research questions were addressed by interviews that immediately followed survey completion. Artifacts such as district or school training calendars and BIP cheat sheets were collected post-interview from paraeducator supervisors. Although survey and interviews were predicted to take 35 minutes, actual time taken ranged from 20-50 minutes dependent upon participant level of engagement.

Findings for Research Question 1

Research Question 1 was: What training did paraeducators identify and describe as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder? Data were collected from both surveys and interviews in response to the research question.

Quantitative analysis of survey responses. Parts B and C of the survey addressed Research Question 1. Part B asked paraeducators to rate their general degree of BIP training across five questions as None, Low, Moderate, or High. Part C asked paraeducators six questions regarding their training needs aligned to the six key components of an effective BIP based on the Browning-Wright et al. model, with paraeducators asked to indicate the degree to which they were given a copy of their student’s BIP, their ability to read and understand the BIP, their student’s behavior goals,
and to what degree they were trained and received prior training in how to use a BIP with a student. Table 2 shows results using the frequency, percentage, and mean of responses.

Table 2

*General Training Experiences of 12 Paraeducators*

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Received BIP</td>
<td>6</td>
<td>50</td>
<td>3</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>Understand BIP</td>
<td>3</td>
<td>25</td>
<td>4</td>
<td>33</td>
<td>5</td>
</tr>
<tr>
<td>Understand behavior</td>
<td>2</td>
<td>17</td>
<td>3</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>goals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trained in BIP</td>
<td>4</td>
<td>33</td>
<td>2</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Trained before</td>
<td>5</td>
<td>42</td>
<td>4</td>
<td>33</td>
<td>3</td>
</tr>
<tr>
<td>working</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

*Note.* Response scale: 1 = none, 2 = low, 3 = moderate, and 4 = high

In general, paraeducators overall understanding of BIP’s was low, with 75% of paraeducators surveyed responding *None* or *Low* when asked if they received a copy of the BIP. Less than half (42%) reported they could understand the BIP to a moderate degree, although more than half (58%) believed they could understand BIP behavior goals to a moderate to high degree. Finally, 50% of paraeducators surveyed responded *None* or *Low* when asked if they were trained in how to implement a BIP and 75% of paraeducators responded *None* or *Low* when asked if they received BIP training prior to implementation with their students with autism spectrum disorder.

Part C of the survey asked paraeducators to indicate to what degree they were trained in the six key components of an effective BIP based on the Browning-Wright et al. model: the purpose of each child’s behavior, environmental triggers, environmental supports and instructional strategies to teach new behaviors, reinforcement strategies to promote use of new behaviors, reactive strategies, and IEP team communication. Table 3 shows results using the frequency, percentage, and mean of responses.
In general, paraeducator degree of training in the six components of a BIP fell between a low to moderate range across each BIP component \((M = 2.54, \text{ range } 2.25-2.92)\). Half or more of the paraeducators responded *None or Low* when asked if they received training in the following BIP components: understanding the purpose of each student’s behavior, identifying needed environmental changes to support student use of appropriate behaviors, using instructional strategies to teach appropriate behaviors, and communicating with IEP team members. BIP components that earned high ratings were environmental triggers \((M=2.67)\) and reactive strategies \((M =2.58)\). The BIP component with the highest rating was reinforcement strategies \((M =2.92)\).

**Qualitative data analysis.** Immediately after completing the survey, 11 paraeducators participated in a semi-structured interview. The data presented were collected from interview question one. The following subsections outline the responses to Research Question 1. Table 4 shows the theme, participants, frequency counts, artifacts, and percentage of responses for each theme.
Table 4

Major Themes for Paraeducator Training Experiences

<table>
<thead>
<tr>
<th>Theme</th>
<th>n</th>
<th>Frequency</th>
<th>Artifacts</th>
<th>Total</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal training by supervising staff</td>
<td>10</td>
<td>35</td>
<td>3</td>
<td>38</td>
<td>46</td>
</tr>
<tr>
<td>No formal training</td>
<td>9</td>
<td>17</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Irrelevant workshops</td>
<td>7</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Work and parenting experience</td>
<td>6</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td></td>
<td>3</td>
<td>38</td>
<td>100</td>
</tr>
</tbody>
</table>

In summary, 46% of paraeducator interview responses to question one identified and described informal training by supervising staff as their main experience of training when implementing BIPs for students with autism spectrum disorder. Additionally, this finding was supported by three artifacts, cheat sheet versions of a BIP. Ten of the 11 participants reported being informally trained either by their special education teacher or a behaviorist. Nine of the 11 participants reported receiving no formal training in how to implement a BIP. Interestingly, although 7 of 11 participants referred to attending a workshop, topics were considered generic and not specific to BIP implementation or working with students with autism spectrum disorder. Finally, 6 of 11 participants referenced work and parenting experience as a form of training.

**Theme 1: Informal training by supervising staff.** The most frequent theme for Research Question 1 was informal training by supervising staff (e.g., special education teacher, behaviorist), with a frequency of 38 (46% of the overall coded data for this research question). Ten of 11 interviewees described examples of how their special education teacher or behaviorist informally trained them in BIP implementation. For this theme, *informal* was defined as training from supervising staff via verbal review, modeling, or coaching while working with students. As stated by Paraeducator 3,
My training experiences are mostly from the teacher herself. We look at the student and their behavior, and then we will implement the plan that the teacher gives us. We would not read the BIP ourselves, but she would tell us how to do that.

Only one paraeducator referred to being given a copy of a student’s BIP as part of her training experience. As related by Paraeducator 6, “I did get a copy, I read through it a little bit. I mainly looked for what the triggers were, the highlighted points, and I thought, okay, these are the things that I need to know.”

Paraeducators 1, 2, and 7 related how they were trained by their behaviorist. They generally agreed this form of training was insufficient and afforded them limited opportunity to ask clarifying questions, read the BIP, or learn strategies from behaviorist modeling. As paraeducator 7 remarked, “They come and observe, and then they give us a sheet and tell us to tally the behavior or make suggestions, but they do not do any physical training or modeling that for us.”

Paraeducators 3 and 4 described clear examples of what effective verbal training from a special education teacher looks like. Paraeducator 4 mentioned being given clipboards to track behavioral data, which was collected weekly by the special education teacher and then discussed with as a team. As stated by paraeducator 3,

A lot of oral communication, then we will try it. If we see it’s not working then we will discuss it again, what can we do better to implement the BIP. She gives us the tools, maybe a sticker chart that will help them, and she might even put some words on the back that we can all use, because we
rotate constantly, so we can all use the same language that will help with
the behavior and help it be consistent.

In addition to verbal explanations, paraeducators also spoke of how BIPs were
taught via special education teacher modeling and coaching. Paraeducator 1 said, “She’ll
model with a particular student the token board, or how she’s communicating with them,
or how she’s using the cards.” Paraeducator 9 explained how her special education
teacher will “sit down with us at our table and show us the process of how to get them
back, and how to get them re-engaged and how to wait them out, and just how to be
patient.” Paraeducators reported teacher training via modeling and coaching as effective
when learning how to implement BIP instructional strategies.

Theme 2: No formal BIP training. The second most frequent theme for
Research Question 1 was no formal BIP training, with a frequency of 17 representing
21% of the coded data. Nine of 11 paraeducators discussed how they received no formal
training in BIP implementation. The word formal in this theme referred to paraeducator
attendance at trainings, either at their school or off-site, led by an expert in BIP
implementation.

Nine of 11 paraeducators reported no formal training regarding BIP
implementation for students with autism spectrum disorder. Paraeducator 8 shared,
“Because I am a long-term sub, I’m not offered as much training as a permanent
employee. I wish I was trained more. I felt so uncomfortable because I never had
training.” This lack of formal training was remarked upon by the majority of
paraeducators interviewed, and its impact on their morale was best summarized by
Paraeducator 7 who said, “It’s frustrating because I didn’t have any training whatsoever, I still remember my first day, I kind of got scared because I didn’t understand it.”

**Theme 3: Irrelevant workshops.** The third most frequent theme for Research Question 1 was training experiences via irrelevant workshops, which was referenced 15 times and represented 18% of the overall coded data. Seven of 11 paraeducators discussed irrelevant workshops when asked about their training experiences. This was evidenced when paraeducators were asked to detail workshop content and described generic topics were not specific to BIP implementation for students with autism spectrum disorder.

Paraeducators 1, 2, and 4 referred to trainings on how to physically intervene when a student is acting out, such as ProAct and Handle with Care. Paraeducator 1 clarified, “not specifically for the BIP.” Paraeducators 5, 9, and 11 shared they attended some workshops on autism and Paraeducators 9 and 11 attended some workshops on behavior; however, no paraeducator referenced attending a workshop on BIP implementation for students with autism spectrum disorder.

This theme of paraeducator participation in generic workshops was supported by artifact review. Of the four paraeducator supervisors contacted, one provided a training calendar that specified school site trainings for paraeducators. Review of the calendar revealed workshop topics did not include training in BIPs or how to work with students with autism spectrum disorder.

**Theme 4: Work and parenting experience.** The fourth theme for Research Question 1 was paraeducators rely on work and parenting experience as a form of training, which was referenced 13 times representing 16% of the coded data. For this
theme, work and parenting experience was defined as job skills gained from work and/or parenting experience over time. This theme differed from informal training from supervising staff, which referred to paraeducator training provided by either a special education teacher or a behaviorist. Six of 11 interviewees discussed how experience over time gained from working in the field or being a parent counted as training. For example, Paraeducator 9 noted, “It’s on the job, basically what I’ve learned over time.” Paraeducator 6 referenced her experience as a parent, stating, “I just try to go with my mom instinct. I set boundaries, just how I would set boundaries with my own children.” Similarly, Paraeducator 10 noted how it was her experience of having a child with a disability that helped her know how to teach children with challenging behaviors.

The survey data aligned with paraeducator interview responses, in which paraeducators reported their main form of training was informal from the special education teacher or behaviorist, with only one paraeducator reporting she received a copy of the BIP. Three paraeducators stated they were not given a copy of the BIP. Finally, nine stated they received no formal training with two sharing they had some training on autism and behavior. None of the paraeducators interviewed reported attending training on how to implement BIPs for students with autism spectrum disorder.

Many survey respondents (67%) responded None or Low when asked if they received a copy of the BIP, whereas only 27% of interviewees reported not being given a copy of their student’s BIP. This difference in results can be attributed to interviewees not being directly asked if they received a copy of their student’s BIP during the interview process. Of note, only Paraeducator 6 volunteered she was given a copy of her student’s BIP to read, and Paraeducator 8 referenced being given a cheat sheet version of
her student’s BIP. The majority of paraeducators receive a copy of their student’s BIP as part of a training protocol.

**Findings for Research Question 2**

Research Question 2 was: What support experiences did paraeducators identify and describe as they implemented BIPs based on the Browning-Wright et al. model when working with students with autism spectrum disorder? Survey questions 19-24 (Part C) asked paraeducators to indicate to what degree were they supported in the following six BIP components: understanding the purpose of each child’s behavior, environmental triggers, needed environmental supports and instructional strategies to teach new behaviors, reinforcement strategies to promote student use of new behaviors, reactive strategies, and how and when IEP team communication was to occur. Table 5 shows the frequency, percentage, and mean for the survey questions.

**Table 5**

*Degree of Support for the Six Components*

<table>
<thead>
<tr>
<th>Component</th>
<th>None</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior purpose</td>
<td>2</td>
<td>17</td>
<td>3</td>
<td>25</td>
<td>6</td>
</tr>
<tr>
<td>Environmental triggers</td>
<td>2</td>
<td>17</td>
<td>3</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>Environmental support</td>
<td>1</td>
<td>8</td>
<td>4</td>
<td>33</td>
<td>5</td>
</tr>
<tr>
<td>Instructional strategies</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>42</td>
<td>3</td>
</tr>
<tr>
<td>Reinforcement strategies</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>42</td>
<td>3</td>
</tr>
<tr>
<td>Reactive strategies</td>
<td>2</td>
<td>17</td>
<td>3</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>IEP team communication</td>
<td>2</td>
<td>17</td>
<td>4</td>
<td>33</td>
<td>2</td>
</tr>
</tbody>
</table>

*Note.* Response scale: 1 = none, 2 = low, 3 = moderate, and 4 = high

In general, paraeducator degree of support when discussing the six components of a BIP with IEP team members fell between a low to moderate range across each component (*M* = 2.65, range 2.50-2.80). Half of the paraeducators reported having a
None or Low degree of support in the following BIP components: implementing or modifying instructional strategies, using or modifying reinforcement strategies, and ongoing support from their IEP team when implementing or modifying a student’s BIP.

BIP components for which more than half of the paraeducators reported being supported by IEP team members to a Moderate or High degree were discussing the purpose of a student’s behavior, their environmental triggers, discussing environmental supports, and responding to a student’s inappropriate behaviors.

**Qualitative data analysis.** The following section displays the qualitative data were coded into themes from the 11 interviews with paraeducators. The data were collected from interview question two. The following subsections outline the responses to Research Question 2. Table 6 shows the theme, participants, frequency counts, and percentage of responses.

Table 6

**Major Themes for Paraeducator Support Experiences**

<table>
<thead>
<tr>
<th>Theme</th>
<th>n</th>
<th>Frequency</th>
<th>Overall %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussing student needs and team problem-solving</td>
<td>11</td>
<td>73</td>
<td>46</td>
</tr>
<tr>
<td>No support when working with students with autism spectrum disorder</td>
<td>10</td>
<td>51</td>
<td>32</td>
</tr>
<tr>
<td>Effective behavior management strategies</td>
<td>8</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>General education staff support</td>
<td>6</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>159</td>
<td>100</td>
</tr>
</tbody>
</table>

In summary, all 11 paraeducators (46% of the coded data) identified and described discussing student needs and team problem-solving as the main form of support experienced when implementing BIPs for students with autism spectrum disorder. Ten paraeducators (32% of the overall coded data) described student behavioral incidents where they received no support when working with students with autism spectrum disorder.
disorder. Eight participants (11% of the overall coded data) shared examples of effective behavior management strategies as a form of support. Six of the participants (11% of the overall coded data) referenced being supported by general education staff.

**Theme 5: Discussing student needs and team problem-solving.** Analysis of the data collected resulted in the emergence of the most frequent theme for Research Question 2, discussing student needs and team problem-solving, with a frequency of 73 representing 46% of the coded data. All 11 paraeducators shared examples of the importance of discussing student needs and team problem-solving when asked about their support experiences.

All paraeducators identified and described team discussion and problem-solving of student needs as an important form of support when implementing BIPs for students with autism spectrum disorder. Paraeducator 3 shared, “I feel like we work really well as a team, and I know that I can go to my teacher or the speech therapist and they will give me some help.” Paraeducator 4 similarly shared, “She backed us up. If something wasn’t working, we talked about it as a group. We made decisions, we were part of it because really, the paraeducators work with these students sometimes more than the teacher’s do.”

Paraeducators also viewed each other as an important form of support, valuing each other’s experience, availability to discuss student needs, and help when needed. Paraeducator 1 shared, “The group that I work with, the paraeducators, we work so closely together and we see the kids a lot throughout the day, probably more so than some of the other staff because we’re always with them.” For Paraeducator 9, working closely together as a team looked like stepping in and helping a paraeducator peer when
needed, saying, “They can look at us, and you can tell when they’re getting frustrated with a student, you can just step in and say, ‘Hey, I’ll take this.’” Paraeducator 10 explained how important her peers were to her in the context of two experienced paraeducators retiring, which was a concern as they were her main form of support in her current work setting.

*Theme 6: No support when working with students with autism spectrum disorder.* The second most frequent theme for Research Question 2 was no support when working with students with autism spectrum disorder, with a frequency of 51 representing 32% of the coded data. Ten of 11 paraeducators shared examples of how they were not supported when working with a student with autism spectrum disorder and a BIP. For this theme, no support was defined as school site staff not following the BIP, not providing assistance during a critical behavior incident with a student with autism spectrum disorder, or lack of parental support in the home setting.

Paraeducators identified and described examples of no support when working with students with autism spectrum disorder in four areas: special education teacher, general education teachers, school site principal, and parental support in the home setting. Examples of no support included being undermined in their role, being left to work with students unsupervised, school site staff not providing support during a critical behavioral incident, and parents not following student behavior plans at home. An example of how paraeducators are undermined in their role was shared by Paraeducator 2, who said,

She [special education teacher] negatively reinforces them. It’s making the behaviors worse, and she makes excuses for them. I heard the behaviorist and our special education teacher talking about the student,
and the special education teacher sugarcoats his behavior and makes it seem like it’s no big deal.

Paraeducator 10 shared how the special education teacher was physically absent from the room and went on to describe a work setting where she was walled off from everyone else in the learning center, saying, “We had a big wall that blocked us off because mine were so disruptive. They’re never in the room with you. You’re here by yourself.” Paraeducator 7 believed lack of special education teacher support was due to teacher burn out, sharing, “To be honest, they’re burned out. They’re here just to do the minimum and let the paraeducators take care of it. That’s how I feel.”

Other paraeducator accounts of no support when working with students with autism spectrum disorder were in relation to critical behavior incidents where paraeducators were left on their own to manage student behavior. Paraeducator 7 spoke of a student hitting peers “and the teacher’s just sitting there, and we’re trying to diffuse the situation, and we need help, so do we need to ask for it?” Paraeducator 3 shared an instance where she was supporting a student in a general education classroom, saying,

The teacher relied solely on me to manage that behavior, and I saw it was turning. I didn’t have a walkie talkie and I knew I needed to go get help quick because once she [student] gets out of control, it takes more than one person to help manage that.

Paraeducators also shared stories of no support from school site principals during critical behavior incidents with students with autism spectrum disorder. Paraeducator 8 related an account where her student was refusing to transition back to class from the playground. “The principal saw me outside and all he did was say, ‘Well, you have to go
back to your class,’ and then he walked back in. I would have loved to have assistance right there and then.” Paraeducator 9 told the story of a student who was “totally out of control, beating us up. I made the call to the parent because we couldn’t get hold of the principal either.” She went on to add by the time the parent got there, the student had calmed down, which was when the principal walked in and said, “Well I don’t know why the call was made because I didn’t order it.” Paraeducator 9 reflected on why principals did not step up and help when needed by sharing, “Our administration needs more training on how to handle these kinds of kids too.”

Another topic that emerged within the theme of no support was the lack of assistance offered by general education staff during critical behavior incidents with a student with autism spectrum disorder. As Paraeducator 3 observed, “Once you’re outside of the learning center, that support rests solely on me.” She explained when students act out on the playground and help is needed, they must call back to the learning center for special education staff support. For Paraeducator 8, the lack of general education staff support was because they lacked the necessary behavior management skills, saying “It’s much more in regard to maybe staff here who aren’t specialized with special education. It would be great to be helped by the admin, by other staff here who are not special education.” As Paraeducator 9 reflected, “You’ve got teachers just sitting there and watching them run from you, without helping. At least they could say, ‘how can I help,’ but they’re afraid to get involved because they don’t know what to do.”

A final topic within the theme of no support was lack of parental involvement. Paraeducators shared how the work they do with students to change behavior is not addressed by parents in the home. As paraeducator 11 explained, “What’s really
challenging, I think, is the support at home in the BIP. It just seems like we put in the effort and it would help if the parents did, too.” Paraeducator 6 discussed parental involvement as either full or no support. She related how one parent ensures the same consequence/reward system used at school is also implemented at home and how a different parent devalues reinforcers by giving their child free access technology. As Paraeducator 6 remarked, “Mom wasn’t that much of a help either. She makes excuses; he would stay up all night playing games, so then he would sleep at school.”

**Theme 7: Effective behavior management strategies.** The third theme for Research Question 2 was support in the form of effective behavior management strategies provided by a specialist, with a frequency of 17 representing 11% of coded data. Eight of 11 paraeducators shared examples of effective behavior management strategies provided to them by a specialist, which enabled them to confidently manage student behaviors. For this theme, effective behavior management strategies were defined as teaching tools that work in managing student behavior.

Examples of effective behavior management strategies referenced by paraeducators included games, token boards, star charts, timers, use of first/then language, use of reinforcers, logical consequences, structured choices, planned ignore, and social stories. Paraeducator 3 related how the speech therapist gave her a fishing game to use with her student that “reinforced his good behavior rather than his poor behavior. We were both able to work on the same goal without him having a meltdown.” Token boards were also viewed as effective by paraeducators. Paraeducator 9 shared how she was able to manage a behavioral incident by using this effective behavior management strategy, sharing,
I had a student that was crawling all over my desk. He was kicking the chairs and poking the other students. I have a star chart for him. I asked him, “do you want me to give you a star or take a star?” Well, of course he wants to keep the stars. I said, “Okay, then I need your hands on the paper.” He tells me, “No, no, no, I’m not doing it.” Then I set the timer, and he knows that if I set the timer, he doesn’t get his play time at the end of the day. Immediately I start that timer, he stops and he gets right back in his chair, and he gets his pencil and he starts back to work.

Paraeducator 8 talked about how a social story helped her to teach a student not to interrupt in class and address his swearing. The reactive strategy she was told to use in this instance was ignoring the behavior, “Most of the time that worked. He realized nothing’s going to get done if I continue to cuss and continue to talk the way that I’m talking.” She also shared how her behaviorist coached her in the use of first/then language when working with students. Paraeducator 8 reflected,

That was something I kind of struggled a bit with, was saying “Hey, first do this, and then you get that.” For some reason that concept was really hard for me to grasp, but they (behaviorists) would always come in and help out and be like, “Hey, let’s try this.”

The provision of behavior management strategies that worked and being coached in how to use them by a specialist was considered an effective paraeducator support system frequently discussed by during the interview process.

**Theme 8: General education staff support.** The fourth theme for Research Question 2 was support provided by general education staff with a frequency of 18,
representing 11% of the coded data. Although paraeducators related experiences of no
support from general education staff, incidences of support from general education staff
were identified and described within this theme. Six of 11 paraeducators shared
examples of how they were supported by general education staff when working with a
student with autism and a BIP.

Paraeducator 1 shared, “Everybody at this school site is open when I’m reaching
out to them. If I have any questions, any concerns, behaviors that are not being corrected
with the BIP, I’m able to informally speak to anybody I need to.” Paraeducator 2 uses
walkie talkies to get help when needed, saying, “We kind of have a plan, either one of the
other paraeducators will come or the teacher will come, and yard duties and staff are
really good about stepping in and helping us if we need help.” Other examples of general
education staff support included paraeducators naming general education teachers they
can count on when working with student in their classrooms (Paraeducators 1, 6, and 11),
and school principal support during student behavioral events (Paraeducators 2 and 10).

Findings for Research Question 3

Research Question 3 was: What training and support challenges did paraeducators
who worked with students with autism spectrum disorder experience as they
implemented BIPs based on the Browning-Wright et al. model? The data analysis is
presented first by each separate component of the research questions: (a) training
challenges and (b) support challenges.

Training challenges. This first part of the Research Question 3 was about
training challenges experienced by paraeducators responsible for implementing BIPs for
students with autism spectrum disorder. The data stemmed from responses to the third
interview question. Table 7 presents the three themes that emerged related to this interview question.

Table 7

**Major Themes for Paraeducator Training Challenges**

<table>
<thead>
<tr>
<th>Theme</th>
<th>n</th>
<th>Frequency</th>
<th>Overall %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trained in ineffective behavior management strategies</td>
<td>7</td>
<td>15</td>
<td>68</td>
</tr>
<tr>
<td>Lack of resources</td>
<td>3</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Not given BIP to read</td>
<td>3</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

In summary, 68% of paraeducator interview responses to this question described training in ineffective behavior management strategies as their main training challenge. Seven of 11 paraeducators referred to being trained in behavior management strategies not effective in managing a student with autism’s behavioral needs. This theme was reference 15 times representing 68% of the coded data. Three paraeducators referenced a lack of resources as being a training challenge (referenced four times representing 18% of the coded data), and three stated not being given a copy of the BIP was also a training challenge (referenced three times 14% of the coded data).

**Theme 9: Training in ineffective behavior management strategies.** The most frequent theme for Research Question 3, paraeducator training in ineffective behavior management strategies, was referenced 15 times and represented 68% of the coded data. Seven of 11 paraeducators shared how either the behavior management strategy they were to use was ineffective or the behavioral training they received did not transfer to their work with students with autism spectrum disorder.

Paraeducators described being trained in ineffective behavior management strategies such as planned ignore or physical interventions they were then told not to use.
Additionally, paraeducators commented upon training that was verbal only, with no coaching, modeling, or system for implementation at their work site. For example, Paraeducator 4 shared planned ignore was more a tool for surviving the day versus being utilized as part of a comprehensive student behavior modification plan, sharing,

I have one little boy who I walk to the bus and he spits on everything. People say to ignore him, and that if he spits on an object like a garbage can, to keep wipes with me, and have him clean it, but that could set off his behavior when I’m trying to walk him to the bus. I just think planned ignore should be for certain circumstances, and I think it’s being used more as let’s get through the day.

Paraeducators also shared how the behavioral training they received did not transfer to their setting or students. Paraeducator 3 reflected, “I’ve been to a lot of trainings over the 20 years I’ve been a paraeducator, but then to come back and try and implement them, it just doesn’t transfer.” She further clarified that as she is not the teacher, “It’s hard to implement what you’ve learned without the support of everybody else; there’s not that communication.”

Paraeducator 7 expressed a desire for her behaviorist to model behavior management strategies. For her, verbal training by the behaviorist is ineffective; “We’re like hands on lady, you’re the professional, show us what to do.” Paraeducator 9 was in full agreement with this sentiment and stated,

Most of the trainings off site that we got to, they don’t show you the process of helping that child, they don’t put it in the setting that we’re in.
We need something that’s going to help with the whole group, not just one kid.

Of note were comments made by Paraeducators 4 and 10, who shared they received training in Handle with Care, yet were told not to use the physical intervention techniques for which they were trained. “We get that take down training, but we’re not allowed to use it. You’re told they’re allowed to do it. You cannot stop them. They’re allowed to break everything and tear the room up.” (Paraeducator 10). “We’re getting that training that we can’t use but it’s like we’re not getting the training to keep us from getting to that point where it has to be used” (Paraeducator 4).

**Theme 10: Lack of resources.** The second most frequent theme for Research Question 3 was lack of resources for paraeducator training, with a frequency of four representing 18% of the coded data. Three paraeducators shared how a lack of resources prevented them from accessing needed training. Paraeducators reported time, money, and location as examples of challenges experienced to accessing resources. As Paraeducator 2 stated, “Time would be the biggest thing and money too, because I’m sure money is an issue with districts. Because you have to pay your paras extra time to get that training.” Paraeducator 9 echoed this perspective, saying, “The challenge is location, where they train us, and getting the time to get there. It involves getting subs for us. Usually the only people that get trained are special education people.”

**Theme 11: Not given behavior intervention plan to read.** The third theme for Research Question 3 was not being given a copy of the BIP, mentioned three times and representing 14% of the coded data. Three paraeducators shared how not being given a copy of the BIP was a training challenge. Paraeducator 2 shared, “It’s hard to have a new
kid come in and not know anything about them or their behaviors cause they may do something that you don’t think is a big deal, but then it could turn into something bigger.”

Paraeducator 3 added,

The hardest part was probably not seeing the BIP to start with. Because we get the children and then we receive input kind of as needed. So if the behavior is not under control, then we’ll get the training, whereas it would be nice to see the BIP at the beginning of the year to know what I can be prepared for.

**Support challenges.** This second part of Research Question 3 was about support challenges experienced by paraeducators responsible for implementing BIPs for students with autism. The data stemmed from interview question three. In summary, 9 of 11 paraeducators (81% of the coded data) described poor communication and lack of teamwork as their main support challenge, and 5 of 11 paraeducators (19% of the coded data) referencing ineffective instructional strategies/systems of support as a challenge when working with students with autism spectrum disorder. For this theme, poor communication and lack of teamwork was defined as limited opportunities to discuss student needs with IEP team members, paired with school site staff inability to provide support to paraeducators when needed.

**Theme 12: Poor communication and lack of teamwork.** The most frequent theme for this aspect of Research Question 3 was poor communication and lack of teamwork, referenced 43 times representing 81% of the coded data. Nine of 11 paraeducators described poor communication and lack of teamwork as the main support challenge experienced when working with students with autism spectrum disorder and a
BIP. Paraeducators reported not being listened to by teaching staff nor having a voice in student decision-making processes such as IEP meetings and BIP development and review. Paraeducator 7 summarized poor communication best when she said, “It only seems to be the most important when they have an IEP coming up with parents. But other than that, like to ask us, what do you think should be his goal, we don’t get asked that.”

Paraeducators also discussed lack of teamwork in terms of working with substitutes and school site principals who do not support them. Paraeducator 11 shared how she tried to teach a substitute how to use planned ignore, saying, “She’s unfamiliar with it, so she’s giving him attention instead of ignoring it, and it makes it hard for us.” Paraeducator 9 also related an incident where her school site principal disagreed with how she handled a behavioral crisis. She explained she needed to call the parent because the principal was not available, but when the parent arrived the child had called down and the principal was unsure why the parent was called.

Another source of paraeducator frustration regarding poor communication and lack of teamwork was school site staff not following the BIP and not always communicating to all school site staff. As noted by Paraeducator 4,

Whoever’s working with that student, we all need to be on the same page and know what the protocol is, especially for our autistic kids. Teachers and paraeducators are not on the same page. It’s not a lot of teamwork.

We’re all just trying to survive the day.

**Theme 13: Ineffective behavior management strategies/systems of support.** The second theme for this aspect of Research Question 3 was ineffective instructional strategies and systems of support, with a frequency of 10 representing 19% of the coded
data. Five of 11 paraeducators described instances where the instructional strategies and their accompanying support systems used with students in managing behavior were of minimal value and therefore considered a support challenge when working with students with autism and a BIP. Examples of ineffective behavior management strategies noted by paraeducators included inconsistent classroom schedule, lack of consistent BIP implementation by all staff, room evacuation, planned ignore, and reinforcers losing value as an incentive for students. Additionally, student behavioral observations by a specialist as a system of support were noted to be of limited value.

In discussing ineffective behavior management strategies, Paraeducator 2 shared how the classroom daily routine was not consistently followed by her special education teacher, saying, “She’s just not consistent. I think she’s so spent; our kids are tough. The first part of the day is pretty consistent, then the last part of the day there’s a lot of iPad time.” Paraeducator 4 noted how she was to evacuate the room during a student behavioral incident, “But what I noticed, is that it’s not consistent.” She added, “So that’s my frustration with it. The changes I’ve seen in education is that there’s not consistency with behavior administration.” She also shared how the behavior management strategy of ignoring unwanted behavior was not helping students, noting, “Ignoring is just pushing it down to the next team, the next teacher, and then next teacher as well. I’m not seeing the change.” Another behavior management strategy noted to lose its value in terms of student behavior modification was reinforcers. As noted by Paraeducator 6, “Before he would be willing to work for things, but now he’s not working for things.”
A further support challenge discussed by paraeducators was student observations by a specialist after a behavioral incident. As noted by Paraeducator 7, “It always happens when they’re not here, which is really frustrating. They come when everything’s calm, and everything passed, so they don’t see it.” She further added, “They come and observe, and then they give us a sheet and tell us to tally the behavior or make suggestions, but they do not do any physical training or modeling that for us, never.” Student observations without accompanying feedback were noted by paraeducators to be of limited support value.

**Findings for Research Question 4**

Research Question 4 was: What are paraeducators recommendations for training and support based on their work with students with autism spectrum disorder as they implement BIPs based on the Browning-Wright et al. model? Survey question five (Part A), asked paraeducators to indicate their preferred method of training delivery from 10 options: university course, series of brief (e.g., two hour) workshops, web-based materials, books and other written materials, in-classroom coaching over the course of several weeks/months, other, co-operative work groups at school site, web-based course/activities, videotapes, and all day workshop.

A frequency count was used to determine which training option was most frequently selected by paraeducators as their preferred method of training delivery. The most frequent training option selected by paraeducators as their preferred method of training delivery was a series of brief (e.g., two hour) workshops, with 83% of respondents indicating this method. This was followed by cooperative work groups at their school site (58%). Half of the paraeducators selected each of the following: in-
classroom coaching, books and other written materials, and web-based courses/activities.

The training options with the lowest frequency on the survey were videotapes (33%), web-based materials (25%), university courses (16%) and all-day workshops (16%). No survey participants selected Other as a training method option. The results were tabulated using frequency and percentage of participant responses in order from highest to lowest (Table 8).

Table 8
Paraeducator Preferred Method of Training Delivery

<table>
<thead>
<tr>
<th>Method of Training Delivery</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series of brief workshops</td>
<td>10</td>
<td>83</td>
</tr>
<tr>
<td>Cooperative workgroups at school site</td>
<td>7</td>
<td>58</td>
</tr>
<tr>
<td>In-classroom coaching over several weeks/months</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>Books/written materials</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>Web-based courses/activities</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>Videotapes</td>
<td>4</td>
<td>33</td>
</tr>
<tr>
<td>Web-based materials</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>University courses</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>All-day workshop</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

Survey question six asked paraeducators to indicate their top three choices from the same response options as question five. Frequencies were used to determine which training option was most selected by participants as their first, second, or third choice of preferred method of training delivery. The most frequent training option selected by paraeducators as either their first, second, or third choice of preferred method of training delivery was a series of brief (e.g., two hour) workshops, with 90% of respondents indicating this method. This was followed by cooperative work groups at their school site (50%), and with 42% of paraeducators selecting in-classroom coaching over the course of several weeks/months and web-based courses/activities. The training options that received the lowest count within paraeducator top three choices on the survey were
books and other written materials (25%), videotapes (25%), university courses (16%),
and all-day workshops (16%). No survey participants selected web-based materials and
other as a training method option. The results were tabulated using frequencies and
percentage of participant responses in order from highest to lowest (Table 9).

Table 9

*Top Three Choices of Paraeducator Preferred Method Training Delivery*

<table>
<thead>
<tr>
<th>Training Method</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series of brief workshops</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>Cooperative work groups at school site</td>
<td>6</td>
<td>50</td>
</tr>
<tr>
<td>In-classroom coaching over the course of several weeks / months</td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td>Web-based course/activities</td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td>Books/written materials</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Videotapes</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>University course</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>All-day workshop</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

Survey Question 7 asked participants to indicate whether cost, location, or type of
trainer (e.g., researcher, specialist within school division) affected preference for certain
training delivery methods. Only four paraeducators responded to this section of the
survey. All four cited cost as impacting their preference for training delivery method,
three noted location was a factor, and one said the type of trainer would influence their
decision to participate in training.

**Qualitative data analysis.** Research Question 4 also had two aspects, one
focused on recommendations for training and one for recommendations for support. As
such, the themes are presented first by each separate component of the research question,
training recommendations followed by support recommendations.
This first part of Research Question 4 was about training recommendations made by paraeducators who work with students with autism spectrum disorder and a BIP. The data from the fourth interview question were analyzed and revealed three dominant themes as outlined in Table 10.

Table 10

<table>
<thead>
<tr>
<th>Major Themes for Paraeducator Training Recommendations</th>
<th>n</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior Intervention Plan Training</td>
<td>9</td>
<td>12</td>
<td>52</td>
</tr>
<tr>
<td>Autism Training</td>
<td>6</td>
<td>6</td>
<td>26</td>
</tr>
<tr>
<td>Time to Collaborate with IEP Team Members</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>23</td>
<td>100</td>
</tr>
</tbody>
</table>

Nine of 11 paraeducators and 52% of the coded data described BIP training as their main recommendation for paraeducators who work with students with autism spectrum disorder and a BIP. Six paraeducators (26% of the coded data) recommended paraeducators receive training on the topic of autism, and three paraeducators (22% of the coded data) recommended paraeducators receive time to collaborate.

**Theme 14: BIP training.** The most frequent theme for this part of Research Question 4 was formal training in BIP implementation, with a frequency of 12 representing 52% of the coded data. Nine of 11 paraeducators recommended formal training on how to implement BIPs for students with autism. For example, Paraeducator 1 noted, “I would love to see the IEP and the behavior plans. Maybe have some training as far as how to understand those.” Paraeducator 2 shared, “Training in general is so important. I think yearly we need ongoing training, like how to document behaviors and use token boards.” Paraeducator 3 said she would like to see the BIP “before the first day of school before the kids come. It would be nice to be prepared that way. And then for
teachers to be aware as well.” As she reasoned, “If I go into a classroom with a child with autism, with a BIP, then it all rests on me. So if that child misbehaves, the teacher looks at me to manage that behavior.”

**Theme 15: Autism training.** The second theme for this part of Research Question 4 was formal training on the topic of autism, with a frequency of six representing 26% of the coded data. Six of 11 paraeducators recommended formal training in how to work with students with autism spectrum disorder. For example, Paraeducator 1 noted, “I don’t have schooling regarding how an autistic mind works. I want to understand that more so that I can understand the children that I’m working with.” Paraeducator 5 was specific and added she wanted training that concentrated on the behavioral needs of students with autism, and Paraeducator 10 agreed, stating she wanted, “Training on autism and how to deal with different situations when they arise.”

**Theme 16: Time to collaborate with IEP team members.** The third most theme for this part of Research Question 4 was time for paraeducators to meet and collaborate with IEP team members, with a frequency of five representing 22% of the coded data. Three paraeducators recommended time to collaborate with IEP team members regarding BIP implementation for students with autism spectrum disorder. Paraeducator 1 related how her previous school had “weekly meetings to go over IEPs, to go over behavior plans. I would look at them, we’d be able to ask questions, what’s working, what’s not working.” She expressed this was a practice she valued. Paraeducator 2 echoed this response, saying, “I would like an open place where BIPs and IEPs are left, that we get time to look over those, and time to meet as a team, and go over students.” Paraeducator 4 believed even 15 minutes of daily communication integrated into her workday would
enable her to feel part of a team and get the student information she needs to do her job well. As she reflected, “We need to go back and re-evaluate the training, the communication, because I can’t be good at my job if I don’t have the tools, that’s the bottom line.”

The second part of Research Question 4 was about support recommendations made by paraeducators who work with students with autism spectrum disorder and a BIP. The data from the responses to the fourth interview question were analyzed and revealed two dominant themes. In summary, 10 of 11 paraeducators, representing 77% of the coded data, recommended improving systems of communication and teamwork as their main support recommendation. Four of 11 paraeducators (23% of the coded data) recommended general education staff receive training regarding how to work with students with autism spectrum disorder and a BIP.

Theme 17: Improving systems communication and teamwork. The most frequent theme for this part of Research Question 4 was improving systems for communicating student needs and team problem-solving, with a frequency of 24 representing 77% of the coded data. Ten of 11 paraeducators recommended school sites improve their systems of discussing student needs and team problem-solving to include paraeducators responsible for implementing BIPs for students with autism spectrum disorder. Paraeducator 1 noted,

I have no communication with the gen ed teachers. I have no communication with the elective teachers. I would like to be included in those meeting of the minds, where we can all kind of discuss as a group, maybe things that we’re noticing or not noticing.
Paraeducator 2 shared, “In the SDC class we do not have a lot of time to communicate. That’s the frustrating part about my job right now is that we need to have that time, and we don’t have that time.” In respect to team problem-solving as a system of support, Paraeducator 7 reflected,

We would really like for them to see it, not just come in, observe and then leave. You need to stay here for a whole day. See how their day is going. How are you going to tell us to fix something if you don’t see it?

This same paraeducator added, “They can make as many suggestions as they want, and give us as many data sheets as they want, but if we’re not trained for it, if they don’t show us how to do it, it’s really hard.” Paraeducator 8 summed up team problem-solving as a much-needed support recommendation when she stated,

I would love it if staff, admin, yard duties, other teachers were able to understand and be like, “Hey, you know what, they’re clearly having a moment. Let me see if I can help out.” That’s my main thing right there, that’s what I would love.

**Theme 18: Training for general education staff.** The second theme for this part of Research Question 4 was training for general education staff, with a frequency of seven representing 23% of the coded data. Four of 11 paraeducators recommended general education staff receive training in how to work with students with autism spectrum disorder and a BIP as a means of improving systems of support for paraeducators. Paraeducator 3 noted, “If you go into the regular education classroom the teachers should be aware as well.” Paraeducator 8 said, “It’s just really for the staff that aren’t sped staff, I’d love it if they had better knowledge.” Paraeducator 9 expanded this
idea to include the school administration. For paraeducators responsible for implementing BIPs for student with autism spectrum disorder, a clear desire for all general education staff to be trained in managing student behavior was voiced as a much-needed system of paraeducator support.

**Summary**

This chapter provided a review of the purpose statement, research questions, and methodology, including the data collection process, population, and sample. It included presentation of the findings developed from the data, 12 surveys and 11 interviews. This study was designed to identify and describe the training and support experiences paraeducators working with students with autism spectrum disorder received as they implemented BIPs based on the Browning-Wright et al. model, and their recommendations for training and support. A summary of findings is presented in Table 11.
Table 11

Summary of Themes, Frequency, and Percentage of Responses

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Theme</th>
<th>n</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Informal training by supervising staff</td>
<td>10</td>
<td>35</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>No formal training</td>
<td>9</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Non relevant workshop</td>
<td>7</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Work and parenting experience</td>
<td>6</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Discussing student needs and team problem solving</td>
<td>11</td>
<td>73</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>No support when working with students with autism spectrum disorder</td>
<td>10</td>
<td>51</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Effective instructional strategies</td>
<td>8</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>General education staff support</td>
<td>6</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>3: Training</td>
<td>Training in ineffective behavior management strategies/training models</td>
<td>7</td>
<td>15</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Lack of resources</td>
<td>3</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Not read behavior intervention plan</td>
<td>3</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>3: Support</td>
<td>Poor communication and lack of teamwork</td>
<td>9</td>
<td>43</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Ineffective behavior management strategies / systems of support</td>
<td>5</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>4: Training</td>
<td>Behavior intervention plan training</td>
<td>9</td>
<td>12</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Autism training</td>
<td>6</td>
<td>6</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Time to collaborate with IEP team members</td>
<td>3</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>4: Support</td>
<td>Improving systems for discussing student needs and team problem solving</td>
<td>10</td>
<td>24</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Training for general education staff</td>
<td>4</td>
<td>7</td>
<td>23</td>
</tr>
</tbody>
</table>

Chapter V presents a final summary of the research study, which includes major findings, unexpected findings, and conclusions. The findings and conclusions are followed by implications for action, recommendations for further research, and concluding remarks and reflections.
CHAPTER V: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Findings, conclusions, and recommendations are presented in the final chapter of this dissertation. The key and unexpected findings are reported, followed by the conclusions drawn from those findings. A discussion regarding the implications for action details how schools can best train and support paraeducators responsible for implementing BIPs for students with autism spectrum disorder. Additionally, there are recommendations for future research that may add to the breadth and/or depth of knowledge about the topic of training and supports for paraeducators who implement BIPs for students with autism spectrum disorder. This final chapter concludes with the researcher’s final reflections and remarks.

Major Findings

To establish the key findings for the current study on effective paraeducator implementation of BIPs for students with autism spectrum disorder, the quantitative data were calculated as a mean and the qualitative data were compiled and analyzed into themes. The data stemmed from 12 surveys and 11 interviews with further artifact review. Within the qualitative data, the researcher established eight or more occurrences from at least 8 of 11 participants in the collected responses designated a theme. The training and support experiences, challenges, and recommendations, as identified and described by paraeducators who work with students with autism spectrum disorder, were all considered when identifying key findings.
Key Finding 1 – Paraeducators receive no formal training and experience inconsistent to ineffective informal training from supporting professionals

Paraeducators who work with students with autism spectrum disorder do not receive formal training and often ineffective informal training. Paraeducators, when working in elementary schools that afford them no formal training and limited supports, were limited to using available resources such as informal training and effective communication and teamwork practices. Consequently, paraeducator skills regarding effective BIPs for students with autism spectrum disorder were limited. This key finding was supported by a frequency of 35 for Theme 1 and 73 for Theme 5, with further evidence found in Themes 7 and 9. This finding was also supported by survey data that showed paraeducator training on the six components of a quality BIP fell between a low and moderate range ($M=2.62$, range 2.40-2.9).

The data showed 10 paraeducators experienced informal training from either their special education teacher or a behaviorist when implementing BIPs and eight specifically named the behavior management strategies they acquired from this job-embedded training. Examples of informal training in effective behavior management strategies included games, token boards, star charts, timers, use of first/then language, use of reinforcers, logical consequences, structured choices, planned ignore, and social stories.

Although paraeducators viewed informal training as a support, no paraeducator received formal training in effective BIP implementation. Therefore, it was surmised paraeducator responses within the survey data regarding their degree of training in each of the six key elements of a quality BIP stemmed from informal training experiences.
Paraeducators rated informal training as generally affording them a low to moderate level of understanding of each key component of a quality BIP.

Of particular note was half or more of the paraeducators surveyed responded low or none when asked to rate their degree of training in the following BIP components: the function of student behavior, needed environmental changes, how to use instructional strategies to teach functionally appropriate replacement behaviors, and how and when to communicate with IEP team members. According to Prizant et al. (2006), for instructional staff to effectively manage student behavior they must know how to respond to student needs, model expected behaviors, foster student initiation and independence, and make necessary instructional and environmental modifications as needed. Failure by IEP team members to address all six elements of a student’s BIP during implementation can only result in failing the student for whom it was intended to support.

BIP components that earned slightly higher ratings were environmental triggers and reactive strategies, with reinforcement strategies receiving the highest rating; 75% of paraeducators surveyed indicated they were trained in this component to a low or moderate degree ($M=2.9$). Clearly, consequence/reward systems such as token boards and star charts are components of BIPs in which paraeducators receive the most training. However, for a BIP to be effective, all six components must be addressed. In a study conducted by Cook et al. (2012) exploring the relationship between a high-quality BIPs and their effective implementation in schools, only 9% of above average rated BIPs were implemented with less than 50% fidelity by participants. This finding demonstrated how a well-written BIP is only half the solution and to improve student behaviors, educators must be able to implement BIPs with fidelity (Cook et al., 2012).
The lack of formal training received by paraeducators was supported by research, which noted the most frequent forms of training afforded paraeducators was on the job training (Fisher & Pleasants, 2012; Hall et al., 2010; Joyce & Showers, 2002). Although researchers noted job-embedded professional development was an effective training model, this was only true when feedback and ongoing communication was provided by an expert professional (Hogan et al., 2015; Madzharova et al., 2018; Walker & Snell, 2017). Conversely, not all paraeducators in this study worked with supporting professionals with the necessary expertise to train them. As evidenced in Theme 9, they also received training in ineffective behavior management strategies from supporting professionals. Their experience of receiving training from unskilled supporting professionals was echoed in the findings of Giangreco et al. (2010) who, in their literature review of 32 studies, found special education teachers lacked pre-service training needed for this role and sufficient time for this practice to occur. Thus, paraeducators working with supporting professionals with limited skills in training adults are unsupported in their efforts to implement BIPs with fidelity. Consequently, students with autism spectrum disorder do not consistently receive instruction from HETs skilled in using scientifically based instructional practices as mandated by IDEA and ESSA.

**Key Finding 2 – Paraeducators experience inconsistent support, communication, and teamwork when working with school site staff**

When working with students with autism spectrum disorder across school settings such as learning centers, general education classrooms, playgrounds, and when transitioning students to the bus, paraeducators experience inconsistent support from school site staff and inconsistent levels of communication and teamwork elemental in
consistency of BIP implementation. This key finding was supported by a frequency of 51 for Theme 6, 73 for Theme 5, and 43 for Theme 12. The data showed 10 paraeducators were unable to access support from either their supervising professional, general education staff, or school principal when needed and nine reported poor communication and lack of teamwork as a challenge when implementing BIPs across school settings.

Ineffective implementation of BIPs as a result of poor communication and lack of teamwork was also supported in the literature. Kraemer et al. (2008) noted a key indicator of a quality BIP was ongoing communication and collaboration between all involved IEP team members, yet this element was often poorly addressed when writing a BIP. This was confirmed by survey data in this study that showed only half of the paraeducators surveyed received ongoing support from their IEP team members. Students with autism spectrum disorder learn best within a predictable and consistent daily routine, yet there is no plan in place to document how school staff across varied settings are to provide ongoing support to paraeducators responsible for managing student behavior. As noted by Browning-Wright et al. (2013), without a clearly documented plan for addressing student behavior such as an FBA-based BIP, consistency of implementation across staff cannot occur and challenging student behavior will continue unchecked.

Although paraeducators reported concerns about inconsistent support, communication, and teamwork experienced when managing challenging behaviors of students with autism spectrum disorder, they also shared positive experiences on these same themes. All 11 paraeducators related examples of support from both their special education team and general education staff when working with students across varied
school settings. Three paraeducators (1, 6, and 11) named the general education teachers they could count on to provide help when needed, two paraeducators (2 and 10) knew their school principal would support them with student behaviors, and Paraeducator 4 specifically referenced feeling respected in her position by all staff at her previous school site. As noted in the literature, paraeducators need respect, role clarity, a career ladder, administrative support, competency based training specific to student disabilities, and a voice in student decision-making processes (Azad et al., 2015; Brown & Stanton-Chapman, 2017; Douglas et al., 2015; Fisher & Pleasants, 2012; Giangreco et al., 2001).

Giving paraeducators a voice in student decision-making and building collaborative partnerships regarding student behavioral needs, which includes job-embedded training for all staff, is a necessary step in ensuring effective BIP implementation across school settings.

It is challenging to reconcile how such extremes of support/no support or effective communication and teamwork/poor communication and teamwork co-exist within paraeducators collective experiences. The answer can be found within the literature, which focused primarily on how BIPs are implemented in classroom settings (Hogan et al., 2015; Mouzakitis et al., 2015; V. Walker & Snell, 2017), with only one study examining how classroom staff implement a BIP with fidelity across varied settings (Madzharova et al., 2018). This literature gap regarding fidelity of BIP implementation outside of the classroom setting is a barrier to educator uptake of EBPs in schools.

Transfer of EBPs such as BIPs is challenging. Giangreco et al. (2010) identified the need for more research on the link between effective training and student outcomes. The data within this key finding supported this assertion. Within the world of schools, a
better understanding is needed about why paraeducators experience inconsistent practices of support, communication, and teamwork when implementing BIPs, and to identify ways these issues can be addressed to affect positive student behavioral change.

**Key Finding 3 – Paraeducators need training on BIPs and autism using preferred training formats**

Paraeducators need training in BIPs and autism utilizing brief workshops, cooperative work groups, in-classroom coaching, and web-based courses. This key finding was supported by a frequency of 12 for Theme 14, six for Theme 15, and survey data. Further evidence to support this finding was in Theme 16 with a frequency of five.

The data showed nine paraeducators recommended they receive training specific to their role in implementing BIPs, with six paraeducators specifying such training should address how to work with students with autism spectrum disorder. Paraeducator 2 wanted training on autism. Paraeducators 1 and 3 wanted to see student IEPs and BIPs to better support students.

Survey data in relation to question six was also analyzed. The most frequent training option indicated by paraeducators as one of their top three choices was a series of brief workshops (90%), followed by cooperative work groups at their school site (50%), and 42% selecting in-classroom coaching and web-based courses/activities. Also of interest from survey question six was training options that received the lowest frequency within paraeducator top three choices, namely books and other written materials (25%), videotapes (25%), university courses (16%), and all-day workshops (16%). Survey data were also validated by interviewee responses in Theme 16, where three paraeducators shared how time to collaborate as a team was needed so they could review BIPs and ask
necessary questions. Paraeducator 4 believed such a practice would not require a lot of time and 15 minutes of daily communication integrated into her workday would enable her to feel part of a team and get the student information she needed.

Paraeducators, who are the least trained and qualified, implicitly understand the importance of receiving targeted trainings so they can acquire skills needed to proactively manage student behaviors and implement BIPs with fidelity. This reaffirmed Hogan et al. (2015) who noted correct implementation of BIPs was needed to support students. Findings within the literature regarding outcomes of targeted training for paraeducators were promising. In a systematic review of 12 studies, Rispoli et al. (2011) found paraeducators trained in EBPs for students with autism spectrum disorder were able to implement these practices with fidelity. Furthermore, Brock and Carter (2013) found instruction, modeling, performance feedback, and accountability were effective training components as measured by increased paraeducator fidelity of implementation. The scientific research showed how to best train adults and paraeducators know what training they need, yet the science of how to implement targeted trainings using adult learning theory is not occurring in schools. Rather, schools continue to train staff using one-shot workshops ineffective in transferring EBPs to teacher practices (Odom, 2009).

**Unexpected Findings**

Through analyzing the data, two unexpected findings emerged from the study.

**Unexpected Finding 1 – Paraeducators rely on each other for consistent support**

Paraeducators view each other as an important source of consistent support. Paraeducator peer support was a subtheme within Theme 5, communication and teamwork, with a frequency of 11. Nine of 11 paraeducators shared examples of how
they regularly communicated with each other to problem-solve student behavior, traded places with a peer when they saw a student’s behavior become too frustrating, and immediately responded to calls for help from a peer on the playground.

The finding paraeducators utilized each other as a support network should not be unexpected given paraeducators outnumber special education teachers in schools (Brock & Carter, 2013; Scull & Winkler, 2011) and work with students in a largely unsupervised capacity (Giangreco & Broer, 2005). When working with students who exhibit challenging behaviors, paraeducators know the only support they can rely on is each other. It is time schools recognize the value and commitment paraeducators bring to their role and prioritize financial resources for professional development and time within their workday for necessary team collaboration to occur. Paraeducators are doing the work of teachers in schools and need resources to learn the skills needed so students with autism spectrum disorder can get the free and appropriate public education they need.

**Unexpected Finding 2 – Level of parental support is a factor in effective BIP implementation**

Paraeducators identified parental support as a factor in effective BIP implementation and when seeking to change student behavior. Paraeducators implicitly understood to have a positive impact, a student’s BIP must be consistently implemented both at school and in the home. State law acknowledges the importance of this fundamental requirement and requires BIPs to account for all life settings where students learn, which includes their school, home, and local community (Zirkel, 2011).

This unexpected finding was identified within Themes 5 and 6 with a frequency of 16. Three paraeducators shared their reflections on how parental support impacted
their work with students. Paraeducator 6 discussed parental involvement as either full or non-existent. She related how one parent ensured the same consequence/reward system used at school is also implemented at home and how a different parent devalued reinforcers by allowing the child to freely access technology at any time. When writing BIPs, schools need to consider how student behavior is addressed in the home setting and what steps can be taken to better support consistency of behavior management practices between the home and school.

Based on the finding paraeducators reported inconsistent parental support in following BIPs in the home setting, it could be concluded schools do not facilitate effective home/school collaboration. Consequently, it is recommended IEP team members develop improved systems of training and support to parents so their child’s BIP can be implemented consistently both at school and home.

**Conclusions**

**Conclusion 1: Without effective training, paraeducators are unable to implement BIPs with fidelity**

Without formal training, it paraeducators cannot be effective in educating students with autism spectrum disorder. It was concluded without formal training and ineffective informal training from their supporting professionals, paraeducators are unable to implement BIPs with fidelity. The following evidence supports this conclusion:

- Paraeducators experienced informal training by supervising staff, either their special education teacher or a behaviorist, as a support when implementing BIPs for students with autism spectrum disorder. Informal training was referenced 35 times and was mentioned in 10 of 11 interviews.
• Paraeducators specifically named the behavior management strategies acquired from job-embedded training. Training in effective behavior management strategies from a supporting professional was experienced by eight paraeducators and reference 17 times.

• Not all paraeducators worked with supporting professionals with the necessary expertise to train them. As evidenced in Theme 9, they also received training in ineffective behavior management strategies. Theme 9 was referenced 15 times by seven participants.

• Nine of 11 paraeducators received no formal training in how to implement BIPs for students with autism spectrum disorder. Theme 2 was referenced 17 times by the nine participants.

• Limited training for paraeducators was supported by survey data, which showed paraeducator training on the six components of a quality BIP fell between a low to moderate range ($M=2.62$, range 2.40-2.9).

Conclusion 2: To be effective in supporting BIP implementation, paraeducators need to be full partners with the school and IEP team members

Without consistent support, communication, and teamwork, it was concluded challenging behaviors exhibited by students with autism spectrum disorder will continue in a reactive environment where paraeducators have no voice in how their student’s BIP is monitored and adjusted. This is true for paraeducators who support students with autism spectrum disorder across all school settings such as the classroom, cafeteria, playground, and when transitioning between buildings (V. L. Walker & Snell, 2017). Without needed supports from a school culture of shared ownership in addressing the
needs of all students, paraeducators work in isolation, are seen but not heard, and are not included in student decision-making processes such as the ongoing monitoring and adjustment of BIPs for students with autism spectrum disorder. This study found paraeducators are asking for their voices to be heard regarding what students need and what they need to better support students. Their recommendation for addressing inconsistent practices of support, communication, and teamwork was echoed by researchers who similarly asserted paraeducators need opportunities for active membership in student education teams and teachers need to know how to provide job-embedded training and ongoing support through coaching and feedback (Azad et al., 2015; Douglas et al., 2015). The following evidence supports this conclusion:

- Paraeducators were unable to access support when needed from their supervising professional, general education staff, or school principal. Ten educators mentioned 51 times not receiving support when working with a student with autism spectrum disorder.
- Discussing student needs and team problem-solving as a support was experienced by all 11 paraeducators and mentioned 73 times.
- Paraeducators experienced poor communication and lack of teamwork as a support challenge when implementing BIPs across school settings. Poor communication and lack of teamwork was referenced 43 times by nine participants.
- Survey data revealed only half the paraeducators received ongoing support from IEP team members when implementing or needing to modify a student’s BIP.
Conclusion 3: Paraeducators have specific ideas regarding training and supports needed to work effectively with students with autism and a BIP

Based on the finding paraeducators recommended training in BIPs and autism, it was concluded paraeducators have specific ideas regarding the training and supports they need to work effectively with students with autism and a BIP. It was also concluded paraeducators want to be trained in skills specific to the students they work with via training formats that match their preferred learning modality.

Currently, ESSA requires federal professional development dollars be prioritized for use with all school staff, including paraeducators (Saultz et al., 2017). The law clearly states all school staff, including paraeducators, must be trained in EBPs. With money explicitly allocated for this purpose, the questions must be asked: why are paraeducators not getting this training and why are students with autism spectrum disorder still being denied access to HETs. The following evidence supports this conclusion:

- Paraeducators recommended they receive training on how to implement BIPs. This theme was mentioned 12 times across nine of the 11 interviews
- Paraeducators recommended they receive training on how to work with students with autism. This theme of was mentioned six times across six interviews
- Paraeducators recommended they are afforded time to collaborate with IEP team members. This theme was referenced three times by three participants
- Survey data identified the training options preferred by paraeducators were a series of brief workshops (90%), cooperative work groups at their school site
(50%), and in-classroom coaching and web-based courses/activities (42%). In contrast, paraeducators least preferred methods were books and other written materials (25%), videotapes (25%), university courses (16%), and all-day workshops (16%)

**Implications for Action**

**Implication for Action 1: Institute formal training for paraeducators and for teachers on how to train and support paraeducators**

Based on the conclusion that without formal training paraeducators will not be effective in educating students with autism spectrum disorder, it is recommended paraeducators receive formal training to implement BIPs with fidelity prior to working with students. Specifically, such training should utilize principles of adult learning theory, incorporate a combination of brief workshops paired with cooperative workgroups at the school site, and offer in-classroom coaching as reflected by paraeducator preference of training delivery methods.

To improve paraeducator fidelity of BIP implementation, supporting professionals such as special educators, behaviorists, school psychologists, special education directors, and school site leadership, must provide paraeducators targeted training specific to their role within a formal framework of ongoing training and support. For this training to be effective, supporting professionals must utilize key principles of adult learning theory ensure content taught transfers to paraeducator practice and hence improved learning outcomes for students with autism spectrum disorder. Trainings that utilize adult learning theory allow paraeducators time to read the material, ask questions, practice instructional strategies, and develop mastery through modeling and performance
feedback provided while working with students in the classroom (Hogan et al., 2015; Madzharova et al., 2018; V. L. Walker & Snell, 2017). It is imperative paraeducators receive such trainings from their supporting professionals, as research found paraeducators can, when appropriately trained, implement EBPs with fidelity (Brock & Carter, 2013).

Supporting professionals also need to work with school site leadership to ensure paraeducators have paid time, outside of student instructional time, to participate in cooperative work groups focused on staff training and student needs. Additionally, supporting professionals must model and coach paraeducators on how to implement BIPs with fidelity. Supporting professionals must engage with paraprofessionals over the course of professional development, which enables them to acquire essential competencies. Furthermore, it is the responsibility of district leadership, school site principals, and teacher-training institutions to ensure supporting professionals are fully prepared to train paraeducators in effective behavior management strategies.

The role of supervising and training paraeducators is daunting, especially when beginning special education teachers are working with more experienced paraeducators and lack confidence in their own student behavior management practices. Consequently, teacher-training institutions and credentialing programs must address key principles of adult learning theory and best practices in student behavior management so special education teachers are better prepared for their role in implementing BIPs and training and supervising the paraeducators who use them. As noted by Hendrick (2011), most special education teachers receive limited training in behavioral strategies, such as ABA, critical to working with students with autism spectrum disorder.
Implication for Action 2: Integrate the paraeducator voice in student decision-making processes

Based on the limited support and ongoing communication among school staff necessary for student behavior modification to occur, it is recommended paraeducators are given an active voice in formal student decision-making processes such as IEP meetings and opportunities to participate in school site work groups focused on how to best address student behavioral needs. Such systematic planning for a school wide approach to student behavior management must involve all key stakeholders and paraeducators at the frontline of managing student behavioral crises when they occur.

Giving paraeducators an active voice in system change, especially related to effective BIP implementation by all school site staff, is vital in supporting the successful inclusion of students with autism spectrum disorder in the general education setting. Paraeducator experiences, perspectives, and ideas are central to improving fidelity of BIP implementation across all settings and sustaining a school site culture where student behavioral needs are a shared responsibility. Planning for system change must involve input from paraeducators as a means of elevating their role to one of equal partnership and mutual respect by all school site staff. Paraeducators, as important partners in school wide behavior management practices, must have a voice and be paid for their time to meaningfully contribute to system change.

Including paraeducators in processes of system change means school site leaders must allocate paid time for paraeducators, outside of directly working with students, so they can participate in IEP meetings and school site workgroups focused on ensuring BIPs are implemented with fidelity as a shared responsibility. Additionally,
Paraeducators need paid time to read student BIPs, ask clarifying questions, have their concerns heard, communicate updates regarding student progress, and get the answers they need from the supporting professionals whose job it is to ensure student behavioral goals are met. It is only when paraeducators are paid for the time needed to collaborate daily with all involved staff they will be empowered to affect student behavioral change through fidelity of BIP implementation. As Fixsen et al. (2013) noted, planning for school wide implementation of EBPs involves increasing practitioner capacity through targeted professional development, allowing for individualization of EBPs at the local level and promoting ongoing talks among policymakers and end users of EBPs, namely schools, supporting professionals, and paraeducators.

**Implications for Action 3: Paraeducators need formal training in effective BIP implementation for students with autism spectrum disorder**

Based on the conclusion paraeducators want to be effective in managing student behavior and want training specific to the students they work with, it is recommended schools implement a formal training program for paraeducators. This paraeducator training program should utilize brief workshops paired with in-classroom coaching, modeling, and performance feedback implemented within communities of practice at the school site. Without such targeted training, paraeducators at the frontline of implementing BIPs will continue to use their own judgment based on personal experiences and parenting styles.

Paraeducator training via communities of practice should involve regular team meetings where both teachers and paraeducators engage in focused inquiry into topics such as student behavior management and the development and monitoring of shared
goals, the intent of which is to improve student learning. It is by establishing communities of practice and including active paraeducator participation school leadership can begin to address the research to practice gap. By giving paraeducators opportunities for collegial conversations paired with ongoing support from expert professionals, student BIPs can be implemented with fidelity and student behavioral change achieved.

School districts, site principals, and special education directors must incorporate current research regarding what works regarding providing job-embedded training for paraeducators and the skills supporting professionals need to train them. Paraeducator training programs must pair content with real-world practice opportunities. This can look like video modeling paired with on-site coaching, workshops paired with coaching, performance feedback using bug-in-the-ear technology, participatory action research, and behavior skills training delivered by coaches working with paraeducators in the classroom (Brock & Carter, 2015; Hogan et al., 201; Madzharova et al., 20185; Scheeler et al., 2018; Wright & Prescott, 2017). At the core of successful paraeducator training programs are instructional coaches with expertise in positive behavioral interventions. Consequently, it is recommended instructional coaches with expertise in student behavior management are utilized in the delivery of paraeducator training programs. As noted by Rispoli et al. (2011), performance feedback is a highly effective and efficient means of affording paraeducators on-the-job training.

District and school site leadership must prioritize training dollars for their largest workforce in special education, paraeducators. This needs to look like a yearly training plan, which incorporates paraeducator training via a series of brief workshops paired with onsite coaching from an expert in behavior management. This approach is essential in
ensuring skills taught via workshops are used with fidelity by paraeducators with their students. District training programs should be aligned to a state program advisory, which recommends paraeducator training be comprehensive and utilize the best series of current adult learning theories. The state advisory training recommendations should include theory, demonstration, practice, and coaching provided by professionals, such as school psychologists with expertise in ABA.

CDE should develop and communicate an advisory to all special education local plan areas and school districts regarding specific skills required of paraeducators who work with students with autism spectrum disorder. Specifically, the advisory should include a comprehensive plan regarding instruction and certification in ABA that should be no shorter than one week in duration. Consistent with this program advisory, all special education local plan areas and school districts are advised to develop a new job description for paraeducators who work with students with autism spectrum disorder in partnership with local classified unions. Additionally, the program advisory gives strong guidance that all paraeducators are to be included in meetings about how students with autism spectrum disorder are progressing toward their IEP goals and objectives. Finally, all school site staff are encouraged to solicit the opinions and observations of paraeducators responsible for effective BIP implementation for students with autism spectrum disorder. In this way, paraeducators are realized as equal partners in change processes needed to achieve and sustain student success.

**Recommendations for Further Research**

- It is recommended researchers replicate this study from the perspective of special education teachers’ experiences of supporting and training
paraeducators who implement BIPs for students with autism spectrum disorder

- It is recommended this convergent mixed-methods study be replicated using paraeducators who work in high schools to gain insight into their training and support experiences when implementing BIPs with students with autism spectrum disorder

- It is recommended researchers conduct a qualitative case study of exemplary districts, schools, and special education teachers who successfully train paraeducators to implement BIPs with fidelity for students with autism spectrum disorder

- It is recommended researchers conduct a mixed-methods study to identify and describe similarities and differences in the training and support experiences of paraeducators employed by county offices and paraeducators employed by school districts regarding effective BIP implementation for students with autism spectrum disorder

- It is recommended researchers conduct a qualitative study regarding paraeducator training and support experiences when implementing BIPs with students with autism spectrum disorder in settings outside of the classroom (e.g., playground, cafeteria, transitioning between buildings/from busing)

- It is recommended researchers conduct a mixed-methods study exploring the perspective of parents of students with autism spectrum disorder and the level of training and support they receive from schools regarding how to effectively implement BIPs in the home setting
Concluding Remarks and Reflections

This dissertation journey began when I worked as a one-on-one inclusion aide with a young girl named Jessica, nearly 20 years ago. She was severely autistic with challenging behaviors stemming from being unable to talk. Using the internet, I researched to acquire the information I did not yet know, and together, we learned. Within three months of using the Picture Exchange Communication System with her, Jessica learned to talk. At the time if felt like a miracle, but it was science, an EBP in the hands of one inclusion aide who made a difference in both our lives. It is because of Jessica I became a special education teacher.

Similarly, this doctoral journey has been life altering. It gave me the opportunity to explore how schools currently address the needs of high-risk students with autism spectrum disorder. I am privileged to give voice to the many paraeducators who bring compassion and commitment to their work. I am thankful for their trust and the time they took to share their experiences, and they appreciated someone was taking the time to listen, learn, and gain insight from their perspective. To be given a voice is the opportunity to effect change.

This dissertation journey also helped me to find my voice in leading others in change processes. It gave me the opportunity to conduct research on a subject at the core of who I am, a teacher passionate about learning so we can reach and teach all children. This dissertation journey afforded me the opportunity to think collegially, persevere, and learn to accept a non-linear, ever evolving, and imperfect scientific change process.

Holding a shared belief that we are capable of succeeding is the heart of teaching excellence. As each child who crossed my path and challenged me to acquire new skills
so I could teach and they could learn, so to have I been transformed by this doctoral program, overcoming personal barriers of perfectionism and fear of failure to embrace the skill of asking for help as a strength.

Teaching children how to ask for help appropriately is one of the first skills addressed by a well written BIP. Behavior is communication and teaching functionally equivalent replacement behaviors is how behavior is changed. It is through scientific processes, such as the Picture Exchange Communication System, that a child’s life can be dramatically improved for the better.

This study explored how the science of teaching and learning is being used in schools to help children with autism spectrum disorder benefit from their education by being able to stay in school, learn, and live independent and fulfilling lives. Although we know the science of how to teach adults and how children learn, it is not yet systematically occurring in schools. There is power to change a life by using science, but only when it is placed in the hands of a paraeducator who knows how to use it. Let’s use the science we know so all children in schools, like Jessica, can learn.
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## APPENDIX A - LITERATURE SYNTHESIS MATRIX

<table>
<thead>
<tr>
<th><strong>Theme</strong></th>
<th><strong>Sources</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislation and Special Education</td>
<td>Blood &amp; Neel (2007); Collins &amp; Zirkel (2017); Cook, Klein, &amp; Chen (2012); Crimmins &amp; Farrell (2006); Deardorff, Glasenapp, Schalock, &amp; Udell (2007); Katsiyannis, Yell &amp; Bradley (2001); Lewis (2017); McDonnell &amp; O’Neill (2003); Poucher (2015); Russo-Campisi (2017); Saultz, White, McEachin, Fusarelli, &amp; Fusarelli (2017); Spooner, McKissick, &amp; Knight (2017); U.S. Department of Education, Office of Civil Rights (2016); Walker &amp; Shea (1999); Yell (2016); Yell, Drasgow, &amp; Lowrey (2005); Zirkel (2011).</td>
</tr>
<tr>
<td>EBPs</td>
<td>Butter, Wynn, &amp; Mulick (2003); Fixsen, Blasé, Metz, and Van Dyke, (2013); Harn, Parisi, &amp; Stoolmiller (2013); Hogan, Knez, &amp; Kahng (2015); Ingersoll &amp; Schreibman (2006); Joyce and Showers (2002); Koegel, Matos-Freden, Lange, &amp; Koegel (2012); Nanclares (2004); Odom (2009); Paleo (2005); Phillips (2015); Prizant, Wetherby, Rubin, Laurent, &amp; Rydell (2006); Russo-Campisi (2017); Scheeler, Morano, &amp; Lee (2018); Siegel (1999); Spooner, McKissick, &amp; Knight (2017); Test, Kemp-Inman, Diegelmann, Hitt, and Bethune (2015); Tung (2005); Walker &amp; Snell (2017); Wong, Odom, Hume, Cox, Fettig, Kucharczyk, . . . Schultz (2015); Wright &amp; Prescott (2017).</td>
</tr>
<tr>
<td>Paraeducators</td>
<td>Azad, Locke, Downey, Xie, &amp; Mandell (2015); Blacher &amp; Rodriguez (2007); Bradley, Daley, Levin, Reilly, Parsad, Robertson, &amp; Werner (2011);</td>
</tr>
</tbody>
</table>
### APPENDIX B –_ALIGNMENT TABLE

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Survey Question</th>
<th>Interview Question</th>
</tr>
</thead>
</table>
| 1. What training did paraeducators, identify and describe as they implemented Behavior Implementation Plans based on the Browning-Wright et al. model when working with students with autism spectrum disorder? | 1. To what degree are you trained in understanding the purpose of each student’s behavior?  
2. To what degree are you trained in understanding how a student’s physical, social, and instructional environment triggers their behavior?  
3. To what degree are you trained in how to identify environmental changes needed to support student use of appropriate behaviors?  
4. To what degree are you trained in how to use instructional strategies to teach your student appropriate behaviors?  
5. To what degree are you trained in how to use reinforcement strategies e.g. token board, social praise, earned time for favorite activity, necessary for a student to keep using appropriate behaviors?  
6. To what degree are you trained in how to respond to inappropriate student behaviors when they re-occur?  
7. To what degree are you trained in how and when to communicate with IEP team members regarding your student’s BIP? | 1. Share with me, your training experiences about how to implement BIPs?  
Follow up probe questions re 1-6 of the Browning-Wright et al. BIP Model. |
| 2. What support experiences did paraeducators identify and describe, as they implemented Behavior Implementation Plans based on the Browning-Wright et al. model when working with students with autism spectrum disorder? | 1. To what degree are you supported by the IEP team when discussing the purpose of each student’s behaviors?  
2. To what degree are you supported by the IEP team when you discuss physical, social, and instructional environment triggers for your student’s behavior?  
3. To what degree are you supported by your student’s IEP team when implementing or modifying environmental changes needed to support your student’s use of appropriate behaviors?  
4. To what degree are you supported by your student’s IEP team when | 2. Share with me, in what ways do you feel supported by the IEP team when implementing BIPs? |
<table>
<thead>
<tr>
<th>1. What training and support challenges did paraeducators who worked with students with autism spectrum disorder experience as they implemented BIPs based on the Browning-Wright et al.?</th>
<th>3. What training and support challenges did paraeducators who worked with students with autism spectrum disorder experience as they implemented BIPs based on the Browning-Wright et al.?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. What are paraeducators recommendations for training and support, based on their work with students with autism spectrum disorder as they implement Behavior Implementation Plans based on the Browning-Wright et al. model?</td>
<td>4. Share with me, the main training and support challenges you experienced when implementing BIPs?</td>
</tr>
<tr>
<td>3. Share with me, the main training and support challenges you experienced when implementing BIPs?</td>
<td>4. Share with me, the main recommendations for training and support regarding BIP implementation?</td>
</tr>
<tr>
<td>5. To what degree are you supported by the IEP team when using or needing to modify reinforcement strategies with your student?</td>
<td>6. To what degree are you supported by the IEP team when responding to your student’s inappropriate behaviors?</td>
</tr>
<tr>
<td>7. To what degree are you provided ongoing support from the IEP team when implementing or needing to modify a student’s BIP?</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C – BEHAVIOR INTERVENTION PLAN SURVEY

Part A: Demographic Questions
1. What is your number of years of experience working as a paraeducator?
   [ ] Less than 1 [ ] 1-5 years [ ] 6-10 years [ ] 11-15 years [ ] 16 years or greater

2. What is your number of years of experience working with students with Autism Spectrum Disorder?
   [ ] Less than 1 [ ] 1-5 years [ ] 6-10 years [ ] 11-15 years [ ] 16 years or greater

3. What is your gender? [ ] Female [ ] Male

4. What is your highest level of education?
   [ ] Less than high school [ ] High school or GED [ ] Some college
   [ ] Associate degree (2 years) [ ] Bachelor of Art/Bachelor of Science degree
   [ ] Graduate work or degree [ ] Other: ____________________________

5. Please indicate your preferred method of training delivery (select all that apply):
   [ ] University course [ ] Cooperative work groups at school site
   [ ] Series of brief (e.g., 2 hour) workshops [ ] Web-based course/activities
   [ ] Web-based materials [ ] Videotapes
   [ ] Books and other written materials [ ] All day workshop
   [ ] In-classroom coaching over the course of several weeks/months
   [ ] Other

6. If you marked more than one method of training delivery, order your top three choices with (1) indicating your top choice.
   (1) University course
   (1) Cooperative work groups at school site
   (1) Series of brief (e.g., 2 hour) workshops
   (2) Web-based course/activities
   (2) Web-based materials
   (2) Videotapes
   (3) Books and other written materials
   (3) All day workshops
   (3) In-classroom coaching over the course of several weeks/months
   (3) Other

7. Please indicate whether the cost, location, or type of trainer (e.g., researcher, specialist within school division) may affect your preference for certain training delivery methods:

Part B: General Behavior Intervention Plan Questions:
8. To what degree are you given a copy of your student’s BIP to read?
   [ ] None [ ] Low [ ] Moderate [ ] High
9. Overall, to what degree are you able to read understand a student’s BIP?

   □ None    □ Low    □ Moderate    □ High

10. Overall, to what degree do you understand a student’s behavior goals as written in the BIP?

    □ None    □ Low    □ Moderate    □ High

11. Overall, to what degree are you trained in how to use a BIP with a student?

    □ None    □ Low    □ Moderate    □ High

12. Overall, to what degree have you received prior training in how to use a BIP with a student?

    □ None    □ Low    □ Moderate    □ High

**Part C: Behavior Intervention Plan Questions**

As a paraeducator, you may be required to assist teachers in the development and implementation of behavioral interventions to address your students' challenging behavior. One research-based method to improve the behavior of individuals with disabilities is function-based behavioral intervention plans. This intervention method consists of both (a) the functional assessment of challenging behavior (i.e., assessment to understand the conditions under which the challenging behavior occurs and the purpose the behavior serves) and (b) the development and implementation of a BIP that is based on the information gathered through the functional assessment.

**Please rate your current training needs and level of support in assisting teachers with the following aspects of function-based behavioral intervention plans:**

**Training Needs**

13. To what degree are you trained in understanding the purpose of each student’s behavior?

   □ None    □ Low    □ Moderate    □ High

14. To what degree are you trained in understanding how a student’s physical, social, and instructional environment triggers their behavior?

   □ None    □ Low    □ Moderate    □ High

15. To what degree are you trained in how to identify environmental changes needed to support student use of appropriate behaviors?

   □ None    □ Low    □ Moderate    □ High

16. To what degree are you trained in how to use instructional strategies to teach your student appropriate behaviors?

   □ None    □ Low    □ Moderate    □ High
17. To what degree are you trained in how to use reinforcement strategies e.g. token board, social praise, earned time for favorite activity, necessary for a student to keep using appropriate behaviors?
   - None
   - Low
   - Moderate
   - High

18. To what degree are you trained in how to respond to inappropriate student behaviors when they re-occur?
   - None
   - Low
   - Moderate
   - High

19. To what degree are you trained in how and when to communicate with IEP team members regarding your student’s BIP?
   - None
   - Low
   - Moderate
   - High

**Level of Support**

20. To what degree are you supported by the IEP team when discussing the purpose of each student’s behaviors?
   - None
   - Low
   - Moderate
   - High

21. To what degree are you supported by the IEP team when you discuss physical, social, and instructional environment triggers for your student’s behavior?
   - None
   - Low
   - Moderate
   - High

22. a). To what degree are you supported by your student’s IEP team when implementing or modifying environmental changes needed to support your student’s use of appropriate behaviors?
   - None
   - Low
   - Moderate
   - High

23. b). To what degree are you supported by your student’s IEP team when implementing or modifying instructional strategies to teach your student appropriate behaviors?
   - None
   - Low
   - Moderate
   - High

24. To what degree are you supported by the IEP team when using or needing to modify reinforcement strategies with your student?
   - None
   - Low
   - Moderate
   - High

25. To what degree are you supported by the IEP team when responding to your student’s inappropriate behaviors?
   - None
   - Low
   - Moderate
   - High

26. To what degree are you provided ongoing support from the IEP team when implementing or needing to modify a student’s BIP?
   - None
   - Low
   - Moderate
   - High
APPENDIX D – INTERVIEW PROTOCOL & SCRIPT

My name is Kristen Nottle-Powell and I am a doctoral candidate in Organizational Leadership at Brandman University. I am conducting research on effective paraprofessional implementation of BIPs for students with Autism Spectrum Disorder (ASD). You have been asked to participate because of your work with students with ASD who also have a BIP. Thank you very much for being willing to share your knowledge and insights with me as part of this important study. During the interview, I will be reading most of what I say. Although this may seem a bit awkward, it is a research practice that will help all my interviews be conducted similarly. This provides for consistency in my practice.

Students with ASD have complex profiles with needs that cross academic, social, and behavioral domains. Along with other students with disabilities, students with ASD are the most likely to be suspended and expelled from our schools. Although there is much research on EBPs for working with students with ASD and the professional development needs of paraeducators, only three studies to date have investigated the training needs of paraeducators responsible for implementing BIPs for students with ASD. As a participant in this study, you are helping to change that.

This study seeks to identify and describe the training and support experiences of paraeducators, such as yourself, who implement BIPs for students with ASD, as well as challenges you may have experienced and any recommendations you would like to make regarding your training and support needs. I am conducting surveys and follow up interviews with 12 paraeducators. Before we begin with the questions, I would like to remind you that the information obtained as part of this study is confidential. All data will be reported without reference to identifying individual participants. As indicated on the Informed Consent form, I will be recording our conversation for accuracy and ease of discussion. I may also take a few notes along the way. Thereafter, I will transcribe the interview and will send it to you, so that you can check to verify that your thoughts are properly captured.

We set aside 35 minutes for the survey and interview. As we proceed, please let me know if you want to skip a question or even if you’d like to end the interview early. Do you have questions before we begin? Okay, let’s go ahead and get started.

Prior to this interview, you completed a survey about your training and support experiences with implementing BIPs for students with ASD. The survey addressed 6 key elements of a quality BIP, which I have listed here [point out each element on card: behavior function, situational specificity, needed environmental changes and instructional strategies to teach new behaviors, reinforcement strategies, reactive strategies, team communication]. This interview guide also includes an explanation and example of each key element for your reference during the interview.

1. How would you describe your training experiences about how to implement BIPs? [RQ1]

Follow up probe questions re 1-6 of the Browning-Wright, Mayer, & Saren BIP Model:
1. behavior function, 2. situational specificity, 3. environmental changes and instructional strategies, 4. reinforcement strategies, 5. reactive strategies, and finally 6. ongoing communication

2. How would you describe ways in which you feel supported by the IEP team when implementing BIPs? [RQ2]

Follow up probe questions re 1-6 of the Browning-Wright, Mayer, & Saren BIP Model:
1. behavior function, 2. situational specificity, 3. environmental changes and instructional strategies, 4. reinforcement strategies, 5. reactive strategies, and finally 6. ongoing communication

3. How would you describe the main training and support challenges you experience when implementing BIPs? [RQ3]

Follow up probe questions re 1-6 of the Browning-Wright, Mayer, & Saren BIP Model:
1. behavior function, 2. situational specificity, 3. environmental changes and instructional strategies, 4. reinforcement strategies, 5. reactive strategies, and finally 6. ongoing communication

4. Describe your main recommendations for training and support regarding BIP implementation? [RQ4]

Follow up probe questions re 1-6 of the Browning-Wright, Mayer, & Saren BIP Model:
1. behavior function, 2. situational specificity, 3. environmental changes and instructional strategies, 4. reinforcement strategies, 5. reactive strategies, and finally 6. ongoing communication

5. Do you have anything else you would like to add?

We have come to the end of the interview. Thank you again for sharing your thoughts and experiences with me. Your contribution to this field is much appreciated.

**General Probes that can be added to any question to produce more conversation:**
1. Would you expand upon that a bit?
2. Do you have more to add?
3. What did you mean by…….?  
4. Why do you think that was the case?
5. Could you please tell me more about that?
6. Can you give me an example of?
7. How did you feel about that?
### APPENDIX E – INTERVIEW GUIDE

<table>
<thead>
<tr>
<th>BIP Elements</th>
<th>This means:</th>
<th>Explanation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. BIPs must state the function of the behavior</strong></td>
<td>Answers the question: Why does the student behave the way they do?</td>
<td>This can either be to get something e.g. an object, attention, access to something they like, or reject something e.g. avoid, escape, protest something they don’t like. Understanding the “why” of student behavior helps us to work out a better behavior to replace it with.</td>
<td>A student drops to the ground at the end of recess to protest the end of a favorite activity. A replacement behavior would be to teach the student to request either 5 or 10 more minutes of playground time using a choice board.</td>
</tr>
<tr>
<td><strong>2. BIPs must address situational specificity</strong></td>
<td>Answers the question: What is it in the student’s environment that triggers the behavior?</td>
<td>Refers to how the student’s physical, social, and instructional environment impacts their behavior. Understanding “what” the triggers are for student behavior helps us to work out what environmental changes can be made to reduce the behavior.</td>
<td>A student hits peers when it is time to line up because they don’t like being accidentally touched by others. By having this student line up first, or last, the likelihood of being touched accidentally is reduced. This is one example of how environmental adjustments can be used to address student behavior. Physical trigger: student near peers. Social trigger: student is not able to tell peers he does not like being touched. Instructional trigger: all students are expected to line up after recess. Behavior: student hits peers when it is time to line up after recess because he does not like being touched by others.</td>
</tr>
<tr>
<td><strong>3. BIPs must identify:</strong></td>
<td>Answers the questions: What does the student need in their environment to learn new behaviors? What instructional strategies will be used</td>
<td>Process worked through by student’s IEP team to work out what environmental changes, structure and supports are needed to remove the students use of behavior to get what they want.</td>
<td>One example of an environmental support is a social story. For our student who this appears when lining up, a social story can be used to teach lining up rules, and what to do when accidentally touched by another person. The instructional strategy would be to have the student read and rehearse skills, before lining up with peers. In this</td>
</tr>
<tr>
<td>4. BIPs must reinforce new behaviors</td>
<td>Answers the question: How will new student behaviors be reinforced?</td>
<td>The BIP must say what kinds of reinforcements will be used by staff with the student to make sure the student keeps using the new behaviors being taught.</td>
<td>Examples of student reinforcements are; token board, social praise, earned time for a favorite activity.</td>
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| 5. BIPs must document reactive strategies. | Answers the question: What do you do if the student uses the wrong behavior again? | The BIP must say what staff should do if the student uses the wrong behavior again. This may involve prompting the student to use the right behavior through distraction, re-direction, progressive removals, or school based disciplinary consequences. | Staff Reactive Strategy Plan
1. Prompt student using token board to re-engage in task.
2. Ignore the behavior.
3. Engage student in positive discussion when behavior ends.
4. Follow any necessary classroom or school-based consequences |
| 6. BIPs must address how communication will occur between all involved IEP team members. | Answers the question: How will IEP team members regularly communicate to ensure the BPI is working, discuss BPI modifications, student progress toward BPI education plan goals? | Ongoing communication is key in successful BIP implementation. This involves planning for who will talk to who, how will this occur, and how often will this occur. | Example: special education teacher and paraeducator meet daily to de-brief BIP implementation. Parent receives weekly behavior report. Special education teacher checks in weekly with general education teacher re students BIP. |
APPENDIX F – PARTICIPANT BILL OF RIGHTS

BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD

Research Participant’s Bill of Rights

Any person who is requested to consent to participate as a subject in an experiment, or who is requested to consent on behalf of another, has the following rights:

1. To be told what the study is attempting to discover.

2. To be told what will happen in the study and whether any of the procedures, drugs or devices are different from what would be used in standard practice.

3. To be told about the risks, side effects or discomforts of the things that may happen to him/her.

4. To be told if he/she can expect any benefit from participating and, if so, what the benefits might be.

5. To be told what other choices he/she has and how they may be better or worse than being in the study.

6. To be allowed to ask any questions concerning the study both before agreeing to be involved and during the course of the study.

7. To be told what sort of medical treatment is available if any complications arise.

8. To refuse to participate at all before or after the study is started without any adverse effects.

9. To receive a copy of the signed and dated consent form.

10. To be free of pressures when considering whether he/she wishes to agree to be in the study.

If at any time you have questions regarding a research study, you should ask the researchers to answer them. You also may contact the Brandman University Institutional Review Board, which is concerned with the protection of volunteers in research projects. The Brandman University Institutional Review Board may be contacted either by telephoning the Office of Academic Affairs at (949) 588-1818 or by writing to the Vice Chancellor of Academic Affairs, Brandman University, 16355 Laguna Canyon Road, Irvine, CA, 92618.
INFORMED CONSENT


RESPONSIBLE INVESTIGATOR: Kristen Nottle-Powell, Doctoral Candidate

PURPOSE OF STUDY: You are being asked to participate in a research study conducted by Kristen Nottle-Powell, a doctoral student from the Doctor of Education in Organizational Leadership program at Brandman University. The purpose of this mixed methods study is to identify and describe the training and support paraeducators, who work with students with Autism Spectrum Disorder in elementary schools, receive as they implement behavior intervention plans (BIPs) based on the Browning-Wright, Mayer, and Saren model.

Your participation in this study is voluntary and will include a survey, and should you choose, a follow up interview with the identified student investigator. The survey will take about 5 minutes, and the interview will take approximately 30 minutes to complete, will be audio recorded, and scheduled at a time and location of your convenience. The survey and interview questions will pertain to your training and support experiences and your responses will be confidential. Each participant will have an identifying code and names will not be used in data analysis. The results of this study will be used for scholarly purposes only.

I understand that:

a) The researcher will protect my confidentiality by keeping the identifying codes safe-guarded in a locked file cabinet or password protected digital file to which the researcher will have sole access.

b) My participation in this research study is voluntary. I may decide to not participate in the study, and I can withdraw at any time. I can also decide not to answer questions during the interview if I so choose. Also, the investigator may stop the study at any time.

c) If I have any questions or concerns about the research, please feel free to contact Kristen Nottle-Powell, nott7201@mail.brandman.edu, or by phone at (530) 933-1326; or Dr. Tim McCarty (Chair) at tmccarty@brandman.edu.

d) No information that identifies me will be released without my separate consent and all identifiable information will be protected to the limits allowed by law. If the study design or the use of the data is to be changed, I will be so informed, and consent re-obtained. There are minimal risks associated with participating in this research.

e) If I have any questions, comments, or concerns about the study or the informed consent process, I may write or call the Office of the Vice Chancellor of Academic Affairs, Brandman University, at 16355 Laguna Canyon Road, Irvine, CA 92618, (949) 341-7641

f) I authorize Kristen Nottle-Powell, Brandman University Doctoral Candidate, to record my voice. I give Brandman University, and all persons or entities
associated with this study, permission or authority to use this recording for activities associated with this research study.

g) I understand that the recording will be used for transcription purposes and the identifier-redacted information obtained during the interview may be published in a journal or presented at meetings and/or presentations. I will be consulted about the use of the audio recordings of any purpose other than those listed above. Additionally, I waive any rights and royalties, or other compensation arising from or related to the use of information obtained from the recording.

h) By signing this form, I acknowledge that I have completely read and fully understand the above release and agree to the outlined terms. I hereby release all claims against any person or organizations utilizing this material.

I acknowledge that I have received a copy of this form and the “Research Participant’s Bill of Rights”. I have read the above and understand it and hereby consent to the procedures(s) set forth.

_________________________________________  Date: ______

Signature of Participant or Responsible Party

_________________________________________  Date: ______

Signature of Principal Investigator
APPENDIX H – SURVEY FEEDBACK REFLECTION QUESTIONS

1. How long did the survey take to complete? Did the time seem to be appropriate?
2. Were the directions for the parts of the survey clear to you? Would you recommend any revisions to the directions?
3. Did you feel comfortable answering the questions asked in the survey? If not, which questions do you recommend that the researcher adjust?
4. If you were to change any part of the survey, what would that part be and how would you change it?
5. What suggestions do you have for improving the overall process?

APPENDIX I – INTERVIEW FEEDBACK REFLECTION QUESTIONS

1. How long did the interview take? Did the time seem to be appropriate?
2. How did you feel during the interview? Comfortable? Nervous?
3. Going into it, did you feel prepared to conduct the interview? Is there something you could have done to be better prepared?
4. What parts of the interview went the most smoothly, and why do you think that was the case?
5. What parts of the interview seemed to be a struggle, and why do you think that was the case?
6. If you were to change any part of the interview, what would that part be, and how would you change it?
7. What suggestions do you have for improving the overall process?
The National Institutes of Health (NIH) Office of Extramural Research certifies that Kristen Nottle-Powell successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 05/19/2016.

Certification Number: 2078670.
Dear Kristen Nottle-Powell,

Congratulations! Your IRB application to conduct research has been approved by the Brandman University Institutional Review Board. Please keep this email for your records, as it will need to be included in your research appendix.

If you need to modify your BUIRB application for any reason, please fill out the "Application Modification Form" before proceeding with your research. The Modification form can be found at IRB.Brandman.edu

Best wishes for a successful completion of your study.

Thank You,

BUIRB
Academic Affairs
Brandman University
16355 Laguna Canyon Road
Irvine, CA 92618
buirb@brandman.edu
www.brandman.edu
A Member of the Chapman University System
APPENDIX L – REQUEST TO DISTRICT SUPERINTENDENT

August 19, 2019

Dear ________,

My name is Kristen Nottle-Powell and I am a doctoral candidate from the Ed.D. program in Organizational Leadership at Brandman University. I am conducting a study on how paraeducators are trained and supported to implement BIPs for students with autistic spectrum disorder (ASD) in elementary schools. First, I want to thank you for providing such important services to our students with ASD. Providing educational services for students with ASD can be challenging, and there is value to be had in the field in learning from those who have first-hand experience of working with this population.

I would like your assistance in providing the names of persons in your school district who could connect me with paraeducators who work with students with ASD and a BIP in elementary schools for at least 50% of their workday. For this study, I will survey and interview 12 paraeducators to determine how paraeducators can best be trained and supported to implement BIPs for students with ASD with fidelity. Please provide me with contact information of persons in your school district who would be able to assist in identifying paraeducators who meet the aforementioned criteria.

I would love to discuss my topic further and encourage you to ask any questions you may have that may help you understand how this study will be performed and/or how it may affect you. If you have any questions, comments, or concerns about the study you are encouraged to contact Kristen Nottle-Powell at:__________ or __________; or Dr. Tim McCarty, Advisor, at __________.

Your contribution to this important area of study is greatly appreciated.

Sincerely,

Kristen Nottle-Powell, M.A.
Doctoral Candidate
APPENDIX M – REQUEST TO SPECIAL EDUCATION ADMINISTRATOR

August 19, 2019

Dear ________,

My name is Kristen Nottle-Powell and I am a doctoral candidate from the Ed.D. program in Organizational Leadership at Brandman University. I am conducting a study on how paraeducators are trained and supported to implement BIPs for students with autistic spectrum disorder (ASD).

First, I want to thank you for providing such important service to our students with ASD. Providing educational services for students with ASD can be challenging, and there is value to be had in the field in learning from those who have first-hand experience of working with this population.

I would like your assistance in providing the names of paraeducators in your school district who work with students with ASD and a BIP in elementary schools for at least 50% of their workday. For this study, I will survey and interview 12 paraeducators to determine how paraeducators can best be trained and supported to implement BIPs for students with ASD with fidelity. Please provide me with contact information of paraeducators who meet the afore mentioned criteria that you recommend I contact.

I would love to discuss my topic further and encourage you to ask any questions you may have that may help you understand how this study will be performed and/or how it may affect you. If you have any questions, comments, or concerns about the study you are encouraged to contact Kristen Nottle-Powell at: [email protected] or 530 933 1326; or Dr. Tim McCarty, Advisor, at [email protected].

Your contribution to this important area of study is greatly appreciated.

Sincerely,

Kristen Nottle-Powell, M.A.
Doctoral Candidate

183
APPENDIX N – INFORMATIONAL LETTER

August 19, 2019

Dear ________,

My name is Kristen Nottle-Powell and I am a doctoral candidate from the Ed.D. program in Organizational Leadership at Brandman University. I am conducting a study on how paraeducators are trained and supported to implement BIPs for students with autistic spectrum disorder (autism spectrum disorder).

First, I want to thank you for providing such important services to our students with autism spectrum disorder. Providing educational services for students with autism spectrum disorder can be challenging, and there is value to be had in the field in learning from those who have first-hand experience of working with this population. With that in mind, please consider agreeing to participate in this important research. An informed consent form which details this study further is attached for your signature.

I would love to discuss my topic further and encourage you to ask any questions you may have that may help you understand how this study will be performed and/or how it may affect you. If you have any questions, comments, or concerns about the study you are encouraged to contact Kristen Nottle-Powell [redacted] or [redacted]; or Dr. Tim McCarty, Advisor, at [redacted].

Please review the attached informed consent form and contact me through your preferred method of communication: phone or text 530 933 1326 or email not7201@brandman.edu. Your contribution to this important area of study is greatly appreciated.

Sincerely,

Kristen Nottle-Powell, M.A.
Doctoral Candidate