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Autism Spectrum Disorder and the Impact of Attachment Behavior Toward Therapeutic Staff Support

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This is to certify that the doctoral dissertation by

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Walden University
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Abstract

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by

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MA, Marywood University, 2007

BS, Wilkes University, 2001

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Research has indicated that levels of attachment behavior by individuals with intellectual disability toward professional staff in a residential setting prevent dysregulated behavior. Although challenging behaviors are not part of the diagnostic criteria for an ASD, these behaviors are frequently observed in the forms of property destruction and disruptive/aggressive behaviors. The purpose of this study was to examine the attachment relationship of individuals diagnosed with an autism spectrum disorder (ASD) toward the therapeutic support staff (TSS) assigned to their case as indicated by the display of challenging behaviors (self-injurious, stereotypical and aggressive behavior). Levels of attachment were measured by the Secure Base Safe Haven Observation (SBSHO) List, the display of challenging behaviors was measured by the Behavior Problems Inventory (BPI), and a multiple regression analysis was used to examine the relationship between variables. A convenience sample of 128 TSS workers from 6 behavioral health agencies and 12 school districts throughout northeastern Pennsylvania completed the assessment tools. TSS workers completed the SBSHO List, and teachers of the children diagnosed with ASD completed the BPI. The results of the study did not indicate significant predictor values in determining the effect of attachment relationships on challenging behaviors involving children with ASD. However, the findings of this research contribute to social change by indicating the continued importance of research on attachment relationships in providing TSS for individuals diagnosed with ASD and prevention of challenging behaviors as the field is evolving.

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Dedication

I dedicate this dissertation to my loving husband and daughter, whose love, support, and encouragement have given me the ability to follow my dreams.

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I would never have been able to finish my dissertation without the guidance of my committee members and support from my family and husband.

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Table of Contents

List of Tables iv

List of Figures v

Chapter 1: Introduction to the Study 1

Background 4

Challenging Behaviors 7

Problem Statement 9

Purpose of the Study 11

Research Questions and Hypotheses 11

Theoretical Framework 12

Nature of the Study 15

Setting of the Study 16

Definitions 16

Assumptions 18

Scope and Delimitations 19

Limitations 19

Significance 20

Summary 22

Chapter 2: Literature Review 23

Introduction 23

Literature Search Strategy 24

Theoretical Foundation 25

Attachment Theory 25
Autism and Attachment Theory 28
Literature Review Related to Key Concepts 30
Interventions for Individuals with Autism 35
Programs to Support Individuals with Autism 38
Challenging Behaviors 39
Therapeutic Staff Support Working with Children Diagnosed with Autism 41
Summary and Conclusions 44
Chapter 3: Research Method 46
Introduction 46
Research Design and Rationale 46
Methodology 48
Setting 48
Participants 48
Participant and Participant Procedures 48
Procedures for Recruitment, Participation, and Data Collection 50
Instrumentation and Operationalization of Constructs 51
Data Analysis Plan 54
Threats to Validity 56
External Validity 56
Internal Validity 56
Construct Validity 57

Statistical Conclusion Validity 57

Ethical Procedures 57

Summary 60

Results 61

Descriptive Statistics 62

Summary 66

Interpretation of the Findings 67

Limitations of the Study 69

Recommendations 70

Implications 71

Conclusion 72

References 74

Appendix A: Secure Base Safe Haven Observaton List 91

Appendix B: Permission to Utilize SBSHO 92

Appendix C: Behavior Problems Inventory 93

Appendix D: Permission to Utilize the BPI 94

Appendix E: Classroom Teacher Survey 95

Appendix F: Letter to Teacher 96

List of Tables

Table 1. Descriptive Statistics..... 62

Table 2. Frequency Table for Demographic Characteristics of Participants..... 63

Table 3. Frequency Table for Demographic Characteristics of Children with Autism Spectrum Disorder..... 63

Table 4. Results of the Normality Testing for the Total Score of the Behavior Problems Inventory..... 65

Table 5. Results of the Multiple Linear Regression Analysis..... 66

List of Figures

Figure 1. Residuals scatterplot for homoscedasticity 65

Chapter 1: Introduction to the Study

Individuals diagnosed with autism spectrum disorders (ASDs) have difficulties developing social relationships including, at times, relationships with their parents/caregivers (American Psychiatric Association, 2013). Research has suggested that attachment relationships between a parent and a child diagnosed with autism can be similar to detachment (Ainsworth, 1979; Bowlby, 1958, 1973). In these cases, children with ASD are less likely to seek comfort from a parent when in pain or hurt. Further research in this area has indicated varying levels of attachment by children with ASD toward parental figures, especially their maternal parent (Seskin et al., 2010). For instance, a significant number of children with ASD have a disorganized attachment relationship (Bohlin, Eninger, Brocki, Thorell, 2012, Capps et al., 1994), with higher percentages when ASD is concurrent with a mental retardation diagnosis (Willemsen-Swinkels, Bakermans-Kranenburg, Buitelaar, Van IJzendoorn, & Van Engeland, 2000). A disorganized attachment relationship results from feeling that their parents' behavior is unpredictable, so no organized strategy allows them to feel safe and get their needs met. A child with a disorganized attachment expresses odd or ambivalent behavior toward the parent (e.g., first running up to them, then immediately pulling away; running away from the parent; curling up in a ball; hitting the parent.) The child's first impulse may be to seek comfort from the parent, but as they get near the parent, they feel fear to be in their proximity, demonstrating their disorganized adaption.

This study was conducted to explore the level of attachment of individuals with ASD toward therapeutic support staff (TSS) with regard to the display of challenging

behaviors. This is an important area of study, as ASD children who interact with therapeutic support staff (TSS) may display varying levels of challenging behaviors that lead to potential injury to themselves and/or others. Further, research has demonstrated that security of attachment predicts aspects of social development during childhood and adolescence, such as empathy, social competence, and behavior problems, with secure attachment predicting more optimal developmental outcomes and insecure attachment predicting behavior and relationship difficulties (Bowlby, 1958, 1973).

Though research has focused on the attachment relationship between children with ASD and their primary caregivers, there has not been equal attention to professionals/direct staff providing behavioral health interventions daily (De Schipper & Schuengel, 2010; Schuengel, de Schipper, Sterkenburg, & Kef, 2013; Schuengel et al., 2012). An increasing number of individuals diagnosed with ASD not only spend time with family (parents and siblings) but spend most of the time with professional staff in the forms of behavioral health services, educational services, and medical services to assist with their needs. Understanding the relationship of individuals with ASD toward TSS becomes critical in assisting individuals with ASD to generalize their behavior toward other professional staff and/or caregivers who may assist them in their daily activities. TSS utilize different behavioral strategies to assist with generalizing appropriate behaviors and/or responses to other individuals in the child's life through the utilization of modeling, role play, or applied behavior analysis (ABA). These strategies are utilized on a consistent basis in both pre-planned and spontaneous interactions with others and within the observation of the designated caregiver to transfer skills. It is the

goal of the TSS to transfer skills to others working with the child so that the individual will be able to retain the child with ASD in their current placement, whether it is the family home or a public school.

This research contributes to social change by determining the level of attachment relationship between TSS for children diagnosed with ASD and the subsequent level of observed challenging behaviors. In Pennsylvania, autism services such as TSS that are offered through behavioral health rehabilitation services/agencies are typically requested as challenging behaviors become more and more present in the classroom as well as the home/community setting. Furthermore, providing professionals with a clearer understanding of how the client views the professional relationship in terms of security/trust, how well the professional addresses the needs of the client, and how the attachment relationship may affect the engagement of challenging behaviors will assist in possible staff pairing as well as staffing changes.

Chapter 1 provides an overview of this study as well as background information regarding research literature. Next, a description of the study involving the problem statement, purpose of the study, and research questions is provided. After this, a summary of the framework of the study, both theoretical and conceptual, is detailed. Following that, a description of the nature of the study and important definitions is provided. Lastly, the assumptions, the scope and delimitations, limitations, and significance of this study are explored.

Background

ASD awareness has grown exponentially over the last 10 to 15 years as prevalence rates of ASD have significantly increased. ASD is a lifelong condition that occurs throughout all ethnicities, races, and socioeconomic backgrounds, and it has evolved into a disorder that necessitates intensive intervention (Centers for Disease Control and Prevention [CDC], n.d.). With the increasing prevalence rates of ASD from 1 in 110 children in 2006 to 1 in 68 children in 2010 (CDC, n.d.), the utilization of both educational services (U.S. Dept. of Education, 2015) and behavioral health services have been growing (Makrygianni & Reed, 2010).

The need for intense intervention to help children with ASD brought forth the development of wraparound services in the state of Pennsylvania. Wraparound services are behavioral health rehabilitation supports that provide individualized treatment planning, and community-based care to children, adolescents, and young adults with emotional or behavioral issues that address the full spectrum of medical, social, vocational, behavioral, and educational needs. Services such as behavior specialist consultant, TSS, and mobile therapy are the most frequently requested from Medical Assistance and/or the Community Care Behavioral Health Organization (CCBHO) in Pennsylvania. The behavior specialist consultant develops individualized treatment plans, consults with all entities involved with the child, and supervises the TSS. The TSS works individually with the child and provides interventions to assist with behavioral management. Mobile therapy provides therapy to the child and/or to the parent/family for both emotional and parent challenges. Behavior specialist consultants and TSS work

collaboratively with parents, school teachers, school districts, community resources and county offices to assist the child in making progress and obtaining realistic goals (CCBHO, 2012).

According to CCBHO (2012), the relationship between the child and the TSS worker is vital to the child's overall response to treatment as well as the development of the child's appropriate coping strategies. Thus, it is important to determine the attachment level of a child diagnosed with ASD to their TSS worker, as these individuals are professionally trained to work one-on-one daily with children in a variety of settings (home/community/school). This relationship may indicate increases and decreases in maladaptive behavioral episodes due to changes in staffing and scheduling (De Schipper & Schuengel, 2010). For example, research has shown that attachment behavior may be part of the adaptation to the stresses and challenges of being in group inpatient care (De Schipper & Schuengel, 2010). This adaptation may be determined by the integration of relationships with support staff, because each relationship with a care staff member bears uniquely on challenging behavior. This may also influence the relationship on an outpatient basis (De Schipper & Schuengel, 2010).

Although there have been studies focusing on attachment theory and children diagnosed with ASD, the focus has primarily been on the parental relationship. A child has the increased ability to reach optimum development if a parent is both consistent and appropriate in emotional and physical availability (Bowlby, 1973; see also Bowlby, as cited in Altschul, 1984; Bowlby, as cited in Giddens, 1970). The availability of a parental figure when the child feels anxious and/or frightened during times of exploration

provides a child with the belief that he or she will receive comfort and reassurance when it is needed. As children increase in their explorations of their environment, their knowledge base also increases in addition to their use of coping skills that can lead to more self-reliance as they explore. For children with ASD, maternal sensitivity and insightfulness can support the development of secure attachment, whereas impairments in joint attention and symbolic play are risk factors for insecurity and disorganization of attachment (Kahane & El-Tahir, 2015). Furthermore, research has indicated positive behaviors in children with autism who are securely attached versus those that demonstrate an insecure attachment pattern. Researchers have reported that children with autism demonstrating secure attachment patterns have made more frequent requests (Capps et al.1994), responded more frequently to attempts for joint attention (Charman, 2003), and displayed an increased ability in their utilization of receptive language than children demonstrating insecure attachment patterns (Capps et al.,1994; Rogers & Dilalla,1990; Rogersetal, 1991,1993).

Though research has focused on parents, in many cases, children diagnosed with ASD have a wide variety of individuals working with them daily such as speech therapists, occupational therapists, physical therapists to facilitate the development of both basic linguistic and functional skills. In some cases, treatment providers/nonparental caregivers are with their clients for most of the day (e.g., 8 hours or more per day). Depending on the level of services warranted through assessment and examination, a child may be provided with varying services to meet his or her needs. An ASD child may present with excessive behavioral concerns leading to a bachelor's level individual (TSS)

providing behavioral intervention throughout the day. Some ASD children present with chronic medical concerns leading to a nurse (licensed practical nurse/registered nurse) providing medical care throughout the child's day in the home and/or in the school setting. Lastly, some children may need additional educational assistance throughout the day in which the school district provides an educational aide. This individual has a high school diploma/general equivalency diploma and has attended training provided by the district. Thus, research is needed on the attachment levels toward treatment providers/nonparental caregivers due to the increase in services for the ASD population.

Challenging Behaviors

Although challenging behaviors are not considered within the diagnostic criteria for ASD, they frequently co-occur (Matson & Boisjoli, 2008; Matson, Dixon, & Matson, 2005). Children and adolescents with ASD may present with a number of challenges, most notably aggressive and destructive behaviors (Jang, Dixon, Tarbox, & Granpeesheh, 2011; Kanne & Mazurek, 2011). Researchers have estimated that approximately 94% of children diagnosed with ASD will exhibit at least one challenging behavior (Farmer & Aman, 2010; Matson, Wilkin, & Macken, 2009). Commonly observed challenging behaviors include but are not limited to stereotypical behaviors, property destruction, disruptions/tantrums, self-injurious behaviors, aggression toward peers, and aggression toward adults (Horner, Carr, Strain, Todd, & Reed, 2002). Approximately 56% of children ages 3 through 14 years diagnosed with an ASD displayed aggression (McTiernan et al., 2011). Similar studies on children 3 through 20 with ASD or intellectual disabilities have equivalent prevalence rates (Farmer & Aman, 2011; Matson

et al., 2008). The most commonly attested indications of physical aggression have been "shoves or pushes others" (48% and 36%, respectively), "pinches others" (44% and 32%, respectively), and "hits forcefully" (43% and 26%, respectively). "Scratches others," "hit others with objects," "bite others," and "pull others' hair" have been similarly endorsed (Farmer & Aman, 2011).

These challenging behaviors may affect daily living, ability to function independently at home and/or at school, and may cause harm to self and/or others. These behaviors may also affect not only the lives of the primary family dynamic but may impact peers in classrooms as well as individuals in the community who are in their presence. The quality of the therapeutic or caregiving relationship, the delivery of care, and/or the quality of the interactions between professional staff/caregiver and an individual diagnosed with intellectual disabilities, including various primary diagnoses such as ASD, can influence the attachment relationship (Schuengel et al., 2012).

Individuals with ASD continue to indicate varying levels of attachment toward professional staff and displays of challenging behaviors (De Schipper & Schuengel, 2010; Schuengel et al., 2012). However, a diminutive amount of research has been directed toward the attachment relationship between a child with ASD and professional staff in an intensive nontraditional outpatient setting. Other research has been directed toward residential treatment facilities and special daycare settings (De Schipper & Schuengel, 2010; Schuengel et al., 2012). But challenging behaviors may vary across staff members in residential facilities. Insurance companies are emphasizing the need for least restrictive placements, the need to further study these relationships is paramount.

Further, there is limited research on the levels of attachment of a caregiver (TSS/professional staff) working with a child with autism and the impact of the relationship on challenging behaviors. As the diagnosis of ASD continues to rise as well as the need to ensure that both appropriate and effective interventions are being utilized, it is important to study the relationship between professionals such as TSS and children with ASD. TSS are a key factor in BHRS in assisting ASD students. This study may lead to an impact on the utilization of such services for children with ASD not only in Pennsylvania but across the country.

Problem Statement

Research indicates not only the importance of a relationship between staff and patient/client in controlled environments but the type of response provided to that individual. For instance, the relationship between professional staff and individuals with intellectual disabilities including ASD is important, especially in relation to challenging behaviors (De Schipper & Schuengel, 2010; Schuengel et al., 2012). Caregivers who have been responsive to their clients with ASD have had higher quality interactions (defined as frequency of initiatives, confirmation, reactions and affective mutuality of clients and caregivers), and more secure relationships (measured by the Adult Attachment Interview; George et al., 1996). Additionally, attachment behavior may affect the exhibition of challenging behavior (De Schipper & Schuengel, 2010). The inability to cope with both external and internal stressors leads to possible displays of maladaptive behaviors when an individual does not have the availability of a secure base/safe haven. For example, previous research has indicated that increases or decreases in the display of

challenging behaviors may be correlated with staffing schedules and/or staffing changes in residential and/or specialized daycare settings (controlled environments; De Schipper & Schuengel 2010; Schuengel et al., 2012).

Staff who provide care on a regular basis may become complementary attachment figures for children (Pallini & Laghi, 2012). Moreover, secure and insecure attachment relationships between child-professional staff appear to be independent from that of child's attachment relationship with the parent or parents (Goossns & Van IJzendoorn, 1990). Professional staff may face the same challenges that parents face in recognizing the attachment signals of an ASD child daily. But professional staff may not always be aware of their (potential) attachment function because professional as well as scientific literature on care for children with ASD is not extensively studied.

Attachment relationships between ASD children and staff such as TSS in a non-traditional outpatient setting (school) have not been explored, though a client–therapist relationship may represent an ideal opportunity to develop attachment security (Bowlby, 1988). The current study attempts to fill the gaps in literature and supports the need to continue behavioral health rehabilitation services, as it provides information on the relationship between staff and challenging behaviors exhibited. The current study is exclusively dedicated to the ASD population between the ages of 12 and 18 years, attending specialized classrooms, and who have TSS assigned to their case in a non-traditional outpatient setting (school). It is presumed that as a child has a secure attachment with their assigned TSS, the frequency of challenging behaviors will

decrease. This may be due to the TSS understanding the child's wants and needs more accurately as they have worked with the child over time.

Purpose of the Study

This study was conducted to quantitatively examine the attachment levels of individuals diagnosed with an ASD to their TSS as predicted by the display of challenging behavior within the school setting. Overall, I attempted to determine that as children with ASD become secure and attached to their TSS that challenging behaviors will decrease in frequency in the school setting. This is an important area to study, as behavioral health rehabilitation services are consistently working with ASD individuals who continue to need support.

Research Questions and Hypotheses

Research Question 1: Is attachment toward TSS workers by individuals diagnosed with ASD predictive of the display of challenging behavior, as measured by the SBSHO List and the Behavior Problems Inventory (BPI)?

$H_0 1$: Attachment as measured by TSS workers' scores from the SBSHO list is not a significant predictor of the teachers' scores on the BPI, an indicator of challenging behaviors.

$H_a 1$: Attachment as measured by TSS workers' scores from the SBSHO list is a significant predictor of the teachers' scores on the BPI, an indicator of challenging behaviors.

Research Question 2: Is the amount of time TSS work daily with an ASD individual client predictive of the display of challenging behavior, as measured by the SBSHO List and the BPI?

$H_0$2: The amount of time TSS work daily with an ASD individual client is not a significant predictor of the exhibition of challenging behavior.

H_a2: The amount of time TSS work daily with an ASD individual client is a significant predictive of the exhibition of challenging behavior.

The independent variables were the attachment levels of individuals diagnosed with ASD to their TSS workers and the amount of time TSS work daily with an ASD individual. Attachment levels were measured by the SBSHO List (De Schipper, Stolk, & Schuengel, 2006). The dependent variable was the display of challenging behaviors. Three behavior categories for challenging behaviors (a) self-injurious, (b) stereotypical behavior, and (c) aggressive/destructive behavior were measured by the BPI (Rojahn, Matson, Lott, Esbensen, & Smalls, 2001).

Theoretical Framework

Attachment theory, as described by Bowlby (1969, 1973, 1980), suggests that from an evolutionary perspective, children are born biologically prepared to form attachments with others in their world, as it is vital to their survival. According to Bowlby (1969), the attachment between a parent and child is needed to ensure that a child reaches their optimum developmental level. If this emotional bond is lacking in appropriate emotional and physical availability and is inconsistent, the child will struggle in current and future relationships. Attachment can be defined as the bond between a

child and a parent/caregiver that provides the child with a sense of autonomy, comfort, and safety enabling a child to securely explore his or her world without fear or insecurity (Ainsworth, 1991; Bowlby, 1982; Grzadzinski, Luyster, Spencer, & Lord, 2014; Ooi et al. 2006; Perry, 2009; Rutgers et al., 2007).

Contemporary attachment theory/perspective has expanded on Bowlby's (1969) core ideas of attachment theory. Previous emphasis on this theory was based on a behaviorist viewpoint; however, over the past 15 years, Bowlby's work has expanded into a more complex and more clinically driven model. Researchers have suggested that any theory of development must include psychobiological findings regarding precisely how early emotional transactions with the primary object impact the development of psychic structure—that is, how affective attachment communications facilitate the maturation of brain systems involved in affect and self-regulation (Schore & Schore, 2007). For example, De Schipper and Schuengel (2010) hypothesized that it is within the attachment relationship that children learn to regulate their emotions and to utilize their interpersonal resources when they cannot cope with a stressor on their own. As attachment behavior results from an inborn tendency to signal or approach a familiar caregiver in times of need, a child with ASD may find comfort and/or support in signaling or approaching their caregiver, preventing excessive stress (Bowlby, 1984; Bowlby, as cited in Giddens, 1970). Children with ASD may experience a build up of negative arousal, leading to a hinderance in adaptive functioning and an increase of maladaptive responses such as aggression and withdrawal if they do not have the ability to signal distress or they do not receive an adequate response from a caregiver (De

Schipper & Schuengel, 2010). It is important for children to experience their caregiver as a "safe haven" during these times of high physiological distress.

Secure-base caregiving has also been indicated in the development of attachment security, which refers to the child's consistent experience (Ainsworth, 1991). The child's experience of having the caregiver as a safe haven or secure base is needed to instill the sense of relief when distressed and/or emotional comfort that the child can return to when feeling upset. A child will maintain positive feelings and expectations about the caregiver if that caregiver is the individual providing secure-base caregiving. Secure attachment will occur toward that caregiver. On the other hand, if a child experiences repeated times in which a caregiver does not respond as a secure base for meeting the child's needs and to decrease distress, the child will develop an insecure attachment toward that caregiver.

Attachment behaviors may be signaled toward familiar individuals within a setting during a time of need (Bowlby,1984; see also Bowlby, as cited in Giddens, 1970). In the current study, the TSS worker is the individual who ultimately adopts the role as the primary caregiver in school and attempts to meet the needs of the child. As the TSS worker chooses to respond or to not respond, the child in question with the ASD diagnosis with forge an attachment relationship on varying levels. TSS workers may work an extensive amount of hours per week with an ASD individual in multiple settings (home/community/school). As an ASD child experiences anxiety and/or stress, challenging behaviors may be exhibited. If the child is seeking comfort from their TSS/caregiver, it is important to determine the relationship between attachment and the display of challenging behaviors.

The framework of the current study relates to the study approach (key research question, instrument development, and data analysis) to determine the relationship between variables such as level of attachment and display of challenging behaviors toward TSS. Attachment theory relates to both the study approach and research questions because the theory is based on the bond between a child and a parent/caregiver that provides the child with security (Ainsworth, 1991; Bowlby, 1982; Ooi et al. 2006; Perry, 2009). Based on the current literature review, as TSS build rapport and maintain a secure attachment to an ASD child, that challenging behaviors decrease in frequency. As the study attempts to answer close-ended questions, the relationships between variables are explored in a manner utilizing instruments such as the Secure Base Safe Haven Observation (SBSHO) List and the BPI to provide numerical value to the data for regression analysis.

Nature of the Study

This quantitative study was conducted to examine whether the relationship between the independent variable, attachment levels between individuals diagnosed with ASD and TSS workers, predicts the dependent variable, total score of self-injurious behavior, stereotypical behavior, and aggressive behavior on the BIP. Attachment levels were measured by the SBSHO List (De Schipper et al., 2006). Three behavior categories for challenging behaviors—(a) self-injurious, (b) stereotypical behavior, and (c) aggressive/destructive behavior—were measured by the BPI (Rojahn et al., 2001) for a total score.

Data were collected from both teachers in the school setting and TSS workers employed at six behavioral health agencies within northeastern Pennsylvania working with individuals (ages 12 to 18 years) who were diagnosed with an ASD and receiving behavioral health services in the form of TSS in the school setting. Data were analyzed by utilizing both the SBSHO List (De Schipper et al., 2006) and the BPI (Rojahn et al., 2001). A multiple regression analysis was utilized to determine the predictive relationship between attachment levels and display of challenging behaviors.

Setting of the Study

The study took place at the six behavioral health agencies located in northeastern Pennsylvania. All six behavioral health locations specialize in outpatient care. Each provider varies in the number of clients they service, as they may range from 50 clients to 350 clients. Each provider conducts behavioral health services in the form of behavior specialist consultant, mobile therapist, and/or TSS. These services are based on a one-to-one staff–client ratio. Times, locations, and criteria of the participants were provided to the directors of each agency. Each session was held at a classroom for each teacher and each behavioral health agency worker who was willing to participate. Additional sessions were provided upon request if additional participants were interested.

Definitions

Attachment theory: The viewpoint regarding the emotional bond between a mother and child as well as the potential impact of that attachment bond on a child's relationships during their lifespan (Ainsworth, 1969).

Autism: A developmental disorder that appears in the first 3 years of life and affects the brain's normal development of social and communication skills (American Psychiatric Association, 2013).

Autism Spectrum Disorder (ASD): The current mental health diagnosis referred to in the Diagnostic and Statistical Manual of Mental Disorders-V (DSM-V, 2013) that has encompassed all previous autism diagnoses from the DSM-IV-text revision (TR) to present as a disability that typically appears within the first three years of life, characterized by social and communication difficulties as well as a combination of repetitive behaviors, restricted interests, and sensory difficulties (American Psychiatric Association, 2013).

Behavioral health rehabilitation services (BHRS): Community-based services provided to an individual diagnosed with a mental health diagnosis to assist with appropriate functioning in multiple settings (Medical Assistance 1994).

Caregiver: Refers to a family member or individual (professional/family friend) who assists in the care of sick, disabled, or elderly person.

Proximity maintenance: Refers to the child's ability to stay close to the caregiver to ensure safety (Ainsworth, 1991).

Secure base: Refers to the secure and dependent base that the caregiver provides so that the child can independently explore the world (Ainsworth, 1991).

Safe haven: Refers to the caregiver as someone who will comfort and soothe a child when the child feels threatened or afraid (Ainsworth, 1991).

Separation distress: Refers to the emotional upheaval (upset and distressed) a child feels when separated from the caregiver (Ainsworth, 1991).

Stability of therapeutic staff support: Refers to the amount of time in which a TSS is assigned to their current client with ASD. TSS may be assigned to a child with ASD over periods of weeks, months, and/or years. For example, a TSS may be assigned to work with a child for an entire school year but not the summer due to the TSS not being available for the summer months or staff changes due to staff turnover.

Teacher: Refers to the highly trained individual with a minimum of a bachelor's degree in the area of education and/or a special education assigned to the classroom in which the child diagnosed with an ASD attends.

Therapeutic Staff Support (TSS): Refers to highly trained individuals possessing either a bachelor's degree or an associate's degree with 3 years paid experience who work with families and schools to promote positive age-appropriate behavior and implement behavioral strategies across all settings in which the child participates (Medical Assistance, 1994).

Assumptions

It was assumed that all participants in the study would understand and provide appropriate responses for the instruments utilized within this study. It was also assumed that participants were honest in their responses. Further, it was assumed that the ASD diagnosis was provided by a licensed professional (psychologist/psychiatrist). As instruments were completed by TSS workers, it was also assumed that their answers were reflected toward their current client with an ASD diagnosis. Finally, it was assumed that

both the SBSHO List (De Schipper et al., 2006) and the BPI (Rojahn et al., 2001) were valid and reliable in regards to data analysis.

Scope and Delimitations

In this study, I examined the level of attachment relationship toward TSS workers by individuals diagnosed with ASD as evidenced by the exhibition of challenging behaviors. More research needs to be explored in attachment theory with the ASD population; however, focusing on the attachment relationship toward professional staff such as TSS by individuals with ASD provides further evidence of varying levels of attachment toward individuals in which an individual with ASD spends time. The participants were employed at a behavioral health agency in which they worked as a TSS with individuals diagnosed with ASD or employed as a school teacher in a specialized education classroom. I focused only on the display of attachment behaviors toward professional staff and the display of challenging behaviors.

Limitations

The selection of participants was limited to a convenience sample of individuals working as TSS workers at behavioral health agencies who currently worked with individuals diagnosed with ASD. Individuals who had worked with their client for a long period of time may have answered in a more positive manner than those working with their client for a short amount of time.

Additionally, although it is typical in children's services and may be representative, the gender of the participants as well as the gender of the individuals diagnosed with ASD may be a factor that limits the generalizability of the data. The

current pool of data indicated a higher frequency of female participants versus male, as staffing at behavioral health agencies across the select portion of northeastern Pennsylvania have reported ratios of female staffing within the 75 to 80% range. The gender difference may affect the transferability of the data findings.

Further, I may have brought inherent biases to the current study, because I work in the local community at a behavioral health agency as a behavior specialist consultant and supervise TSS working with individuals diagnosed with ASDs. TSS workers who are directly supervised by me were unable to participate in the study. To ensure that the role of researcher and worker are kept separate, I maintained separate hours dedicated to work versus research so that the roles did not create a conflict of interest. In addition, I did not discuss the research with any participants except during the instructional period with participants. I also followed a written script to ensure that demand characteristics remained low.

Finally, the SBSHO instrument requires that participants rate the occurrence of statements (items referring to behavior toward the caregiver her/himself) from *strongly agree* to *strongly disagree* and may be highly subjective. Additionally, the BPI instrument requires that participants check the behaviors that has been observed in the past 2 months at least once which relies on the accuracy of the participants' memory.

Significance

The significance of this research is two-fold. First, the study involved exploring a relationship between individuals diagnosed with ASD if attachment levels influence the display of challenging behaviors. When behavioral health services were first

implemented in 1992, the expectations given to providers were that services are to be intense and short-term in duration. However, the difficulty in this reasoning is in part due to ASDs being chronic, and many developmental delays are noted throughout the lifespan. This relationship may impact the need for service on a long-term intensive level. Second, consistency within the child/TSS relationship regarding length of time working with client may create positive attachment behaviors resorting in the child utilizing the TSS as a secure base.

The current study expands on the importance of attachment relationships held by individuals diagnosed with ASDs toward direct staff/professional staff (TSS workers) in the school setting when involved with intensive, outpatient behavioral health services. This study also fills a gap in the current literature. Potential contributions of the study that may assist with advancement in practice and/or policy is the indication of a continued need to utilize behavioral health rehabilitation services as a service provider due to indications of a positive impact on challenging behaviors in correlation with a secure attachment relationship. This study also increases understanding of the impact of community-based behavioral health rehabilitation services in the school environment. Schools may be able to justify the provision of further utilization of behavioral health services to families of any ASD child exhibiting challenging behaviors. Additionally, the research indicates that behavioral health rehabilitation services help ASD children decrease their exhibition of challenging behaviors as attachment levels toward their professional staff becomes secure. Current budgeting strategies within the state of Pennsylvania have noted a decrease in funding, leading to a decrease in authorizations of

services to be provided to individuals diagnosed with ASDs. Thus, the current study may assist in stimulating future research to provide legislators with accurate benefits of behavioral health rehabilitations services for ASDs.

Summary

The goal of this study was to explore the attachment relationship toward TSS to determine whether challenging behaviors were affected positively and/or negatively. The key elements of this section demonstrated behavioral health services utilization, autism screening among primary care physicians, autism diagnostic criteria, and attachment theory. Additionally, the utilization of trained professional such as TSS workers teaching appropriate coping skills to decrease maladaptive behaviors was explored in managing challenging behaviors that are commonly exhibited by individuals diagnosed with ASD.

Chapter 2 presents the literature review of ASD, BHRS, attachment theory, and the impact of attachment relationships on challenging behaviors. Chapter 3 includes the research design of the study, information regarding instruments utilized for assessment regarding validity and reliability and data analysis procedures. Chapter 3 also addresses both research and participant information.

Chapter 2: Literature Review

Introduction

The past 10 to 15 years has led more children to be identified as meeting criteria as determined by the American Psychiatric Association DSM-IV-TR and DSM-V for a diagnosis under the ASD umbrella. The prevalence of ASD is greater than previously thought, at least in part due to greater global awareness and improved screening procedures within both the medical and psychological fields (Wing, 1993). The CDC (n.d.) has estimated that the number of children diagnosed with autism is now 1 in 68 children, and in that number alone 1 out of every 5 boys is diagnosed. Further statistical analyses indicate that this data represents a 78% increase in diagnosis from the first report that the CDC completed in 2007 as well as an increase of 23% since the 2009 report (CDC, n.d.). This dramatic increase in cases has indicated not only a need for professionals to understand the needs of families and individuals coping with such disorders but to assist professionals working with this population as well.

Researchers have begun to investigate the varying levels of attachment relationships across settings as ASD has become increasingly more diagnosed. But the utilization of interventions through behavioral health agencies in an intensive non-traditional outpatient setting as TSS work with their clients at school has not been explored, as focus has been primarily on residential and daycare facilities (De Schipper & Schuengel 2010; Schuengel et al., 2012). The purpose of this study was to quantitatively examine the attachment levels of children diagnosed with an ASD toward their TSS as predicted by the display of challenging behavior within the school setting.

Literature Search Strategy

The rationale of the current literature review is to provide not only a brief history of the mental health diagnoses of ASD but to relate the disorder to attachment theory and the behavioral challenges confronted by the individuals working with individuals diagnosed with ASD. The review involved comparing and contrasting the ASD diagnosis and the changes made from the DSM IV-TR to the DSM V in regard to diagnostic criteria. There were limitations of research on behavioral health services like TSS in regard to attachment theory and exhibition of challenging behaviors, as research centered on the parental attachment relationship or the staff relationship in a residential treatment facility.

A search of literature was conducted digitally through electronic psychology databases. The research approach for this review included the utilization of the following databases: Academic Search Premier, PsycINFO, PsycArticles, ProQuest Dissertations & Theses, Mental Measurements Yearbook, PsycBooks, Educational Resources Information Center (ERIC), Psychology: A Sage Full-Text Collection, and Google Scholar. The terms and phrases used in conducting this search included *pervasive developmental disorders*, *autism spectrum disorders*, *ASD, autism, attachment*, *developmental delays, special needs children, intellectual disabilities mental retardation, coping skills, challenging behaviors, behavioral health services, residential setting, cognitive delays, severe disabilities, attachment theory, Strange Situation, care-giving, care-givers, DSM IV TR, DSM V, toddlers and preschoolers, children and adolescents,* and *intensive behavioral interventions.*

Identification of additional resources was established by cross-referencing. Articles were then limited to those published within the last 10 years, with the exception of original research on attachment theory. The rationale for selecting a given study were as follows: studies that included attachment theory and children with autism, attachment theory and children exhibiting a different developmental disability, attachment theory and caregiver (TSS/professional staff) and children with autism, and attachment theory and children with no disability. A gap in the literature was identified on the levels of attachment of a caregiver (TSS/professional staff) working with a child with autism and the impact of the relationship on challenging behaviors. The theoretical framework of this dissertation is rooted in attachment theory. Key to this theory is the tenet that individuals have an inborn propensity to seek familiar individuals in their lives such as caregivers when they need comfort or support.

Theoretical Foundation

Attachment Theory

The emotional bond between a mother and child as well as the potential impact of that attachment bond on a child's relationships during their life has been studied through several theoretical approaches to determine its origins and developmental process (Ainsworth, 1969). Attachment theory illustrates the relationship dynamics between mother and child. Based on the theory, for a child to reach optimum development, a parent must be both consistent and appropriate in emotional and physical availability (Bowlby, 1973; see also Bowlby, as cited in Altschul, 1984; Bowlby, as cited in Giddens, 1970). Additionally, a child's appetite for change increases their curiosity to explore the

environment around them to learn (Ainsworth & Bowlby, 1991). But the learning process creates insecurity as the child explores unfamiliar environments; therefore, the availability of a parental figure provides the child with the confidence that he or she will receive comfort and reassurance when needed. As a child's explorations increase, their knowledge base increases with skills being taught and learned to cope with the world around them. As these skill areas become increasingly more efficient, the child can become more reliant on themselves and gradually increase their base of independent security.

Different classifications can describe the type of attachment a child has a parent as depicted by the child's behaviors during reunion episodes with their parent (Ainsworth, Blehar, Waters, & Wall, 1978). For instance, The Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978) is used to determine a child's attachment type to their parent when put into a situation in which a stranger is present. Three classifications were initially described. First, secure refers to a child responding to a parent's return by providing a smile, a cry, and seeking interaction or contact. The child's behavior indicates the child's preference of the parent from the stranger. Second, insecure-avoidant means that a child may respond to a parent's return by avoiding interaction, running away, gaze aversion and ignoring parent. Third, insecure-resistant-ambivalent indicates that a child may respond to a parent's return by indicating both attention seeking and resistant interaction behaviors as well as both angry and passive behaviors. A fourth classification was later added to the framework by Main and Solomon (1986)—insecure-disorganized, which means that a child may respond to their

parent's return by indicating confused, disoriented, and disorganized behaviors that are marked by repetitive movements, dazed expressions and frozen posturing.

Expanding on attachment theory, Ainsworth (1982) indicated that the following four components impact a child's attachment pattern: (a) safe haven, (b) secure base, (c) proximity maintenance, and (d) separation distress. A safe haven refers to the caregiver as someone who will comfort a child when the child feels threatened or afraid. A secure base refers to the secure and dependent base that the caregiver provides so that the child can independently explore the world. The development of a secure base relationship occurs as soon as the child is born (Goldsmith, 2010, p. 4). Proximity maintenance refers to the child's ability to stay close to the caregiver to ensure safety. A child's curiosity to explore and learn is due in part to the need for change (Ainsworth & Bowlby, 1991). But as a child learns and becomes frightened or distressed, the child will continue to maintain a sense of security if they are able to return to the caregiver for possible comfort. Separation distress refers to the emotional upheaval (upset and distressed) a child feels when separated from the caregiver. These four components are vital to a child's life as they grow to be independent and have their own relationships. The experiences during the first years of life creates a map for reference utilization outside of the parental relationship (Goldsmith, 2010).

When providing direct care on a regular basis, professional caretakers may become complementary attachment figures for children. In review of nonclinical samples, attachment behavior was indicated by children toward professional caretakers in daycare settings (Groh et al., 2014). Further, a child's attachment relationship with his or her

parents appears to be independent from a child's secure and/or insecure child-professional caregiver attachment relationship (Commodari, 2013; Goossens &Van IJzendoorn, 1990). For example, De Schipper et al. (2006) studied a small but diverse group of children with intellectual disabilities attending a daycare setting. Attachment Q-sort (Waters, 1978) data indicated that all children showed attachment behaviors toward their primary caretaker and that the most characteristic attachment behaviors differed for each child-caretaker dyad as it changed. Data for the secure base rating scale indicated a mean score of $M = 4.73$ and $SD = 1.96$. High scores on this scale indicated that the child used his or her caretaker as a secure base from which to explore his or her environment (De Schipper et al., 2006).

Autism and Attachment Theory

Unique patterns of attachment and bonding have been observed among children with autism (Ainsworth, 1979; Bowlby, 1958, 1973). Children diagnosed with autism can be similar to detached children in regard to their ability to utilize comfort seeking behaviors such as when they are in pain or tired (Bowlby, as cited in Giddens, 1970). Individuals with intellectual disabilities have been found to be more likely to have a type of insecure relationship with their parents when compared to typical peers indicating no delays (Atkinson et al., 1999; Ganiban et al., 2000; Vaughn et al., 1994).

There has been an association between the type of attachment relationship and the sensitivity level of the parenting, indicating the influence of quality caregiving on attachment behaviors (Atkinson et al., 1999). Secure attachment in children has been associated with positive emotional and social development in nonclinical (Becker-Stoll et

al., 2001; Sroufe, 1983; Steele et al., 2002) and clinical populations (Main & Hesse, 1991; Oyen et al., 2000). ASD children, however, may not display secure attachment in the same manner as other peers. Thus, the support of an attachment figure is important to a child with intellectual disabilities due to their inability to cognitively cope with stress (Janssen, et al., 2002). Secure attachment can be formulated if individuals are consistent, responsive, and attuned to the child (Baron-Cohen, 1989). However, parents and professional caregivers experience problems in being sensitive to overcome a child's difficulty in expressing their attachment signals (De Schipper & Schuengel, 2010).

Various theoretical models have also assumed that children diagnosed with autism have an inability to form secure relationships not only with parents but with any individual. Differing models suggest that secure attachment cannot be formulated by a child diagnosed with an autism diagnosis for a multitude of reasons such as sensory overload (Cohen, Paul, & Volkmar, 1987; Dawson & Levy ,1989; Muthoni, 2015). Due to the children's inability to form secure relationships or attachments with others, these children would not indicate a preference between a primary caregiver and a stranger, though other research has shown a significant preference for their mother over a stranger (Grzadzinski, Luyster, Spencer, & Lord, 2014; Patnone & Rogers, 1984). Further research has also shown that children diagnosed with autism did not indicate any significant differences in attachment behavior toward their mother, as they were less distressed by separation from their parent and did not become actively involved with their caregiver (Siller, Swanson, Gerber, Hutman, & Sigman, 2014).

Attachment behavior is important for the prevention of dysregulated behavior due to emotional stress (De Schipper & Schuengel, 2010). The inability to regulate stress is a significant factor in attachment relationships, as individuals who have difficulty in learning to regulating their emotions may have difficulty in learning how to utilize different interpersonal resources to develop appropriate coping mechanisms (Bradley, 2000). Individuals experiencing intellectual disabilities have a greater need of the support of their attachment figure due to not having the resources to cope with stress and/or stressful situations (Janssen, Schuengel, & Stolk, 2002). Furthermore, individuals with intellectual disabilities may not be able to approach caregivers (attachment figures), leading to the inability to adapt to situations and develop skills needed to function appropriately in a stressful situation (De Schipper & Schuengel, 2010). This inability to adapt leads to the exhibition of challenging behaviors.

Literature Review Related to Key Concepts

Children with ASD have been described as having impairments in sensory processing, social relations, communication, restricted interests and repetitive behaviors, as well as excessive challenging behaviors including aggression (American Psychiatric Association, 2013). ASD is a complex, neurological disorder that presents itself within the first 3 years of a child's life. This disorder displays marked impairments in relation to affect, eye contact, nonverbal communication, perseveration of thoughts/ideas/objects, repetitive behavioral patterns, restricted interests, social interaction, social isolation, social reciprocity, and verbal communication. Children diagnosed with ASD often do not have the social skills needed to initiate and withstand social contact even if there is an

interest in interaction engagement with peers (Scattone, 2007). Approximately 33–50% of children with ASD are never able to functionally speak (Rotheram-Fuller, Kasari, Chamberlain, & Locke, 2010). Individuals diagnosed with autism may need assistance through the utilization of visual pictures and/or visual aids to provide insight due to their communication deficits (Porter & Cafiero, 2008). Communication deficits may be dependent on both the severity of the child's autism diagnosis as determined by placement on the spectrum as well as possible cognitive deficits that may be due to an intellectual disability (Bellini, Peters, Benner, & Hopf, 2007).

Individuals meeting the criteria for an autism spectrum diagnosis may share common characteristics involving delays in both the areas of cognition and language. Due to the recent updated version of the DSM (DSM-V) being published and the time in which children are evaluated for behavioral health services, coverage of criteria from both DSMs is necessary as diagnoses from both DSMs may be presented within this study. The DSM-IV-TR delineates between autistic disorder, Aspergers's disorder, and pervasive developmental disorder within the umbrella of ASDs. Although two other subsets, Rett's disorder and childhood disintegrative disorder, are also included within this umbrella, both disorders are extremely severe and rare in diagnosis.

An individual is diagnosed with autistic disorder once the evaluating psychiatrist or psychologist has found that the individual meets the prescribing criteria as found in the DSM-IV-TR (2000). The DSM-IV-TR (2000) characterizes the diagnosis of autistic disorder by indicating marked impairment in multiple areas/facets. Social interaction is highly impaired in nonverbal behavior, peer interaction, lack of shared interests, and/or

lack of social or emotional reciprocity. Communication is delayed and at times there is a lack of spoken language. The individual is unable to sustain a conversation and may be repetitive in speech while lacking in spontaneous make-believe play. Engagement in stereotypical behaviors is common. These behaviors may be abnormal in intensity or focus, may focus on certain parts of objects, and may be inflexible to nonfunctional routines. Engagement in further stereotypical behaviors may occur in the form of motor mannerisms throughout the day. The individual has difficulty functioning daily.

Asperger's disorder is essentially characterized by severe and sustained impairment in social interaction and the development of restricted, repetitive patterns of behaviors, interests, and activities. As in autistic disorder, these impairments must indicate a clinically, significant impact on all facets of an individual's life (social, occupational, etc.). Delays or deviations in language are not apparent by age 2 or 3, although language difficulties may be more apparent with age regarding social communication involving peer to peer interaction/conversation. Cognitive impairments are not noted during the first three years of life and children express normal curiosity of their environment as well as learn adaptive behaviors (Matson & Boisjoli, 2008).

Pervasive developmental disorder, on the other hand, is often prescribed as a diagnosis when an individual does not meet the criteria needed for autistic disorder as set by the DSM-IV-TR. A pervasive developmental disorder not otherwise specified diagnosis is the most common given to an individual (Chakrabarti & Fombonne, 2005; Matson & Boisjoli, 2007).The DSM-IV-TR criteria for a diagnosis of pervasive developmental disorder not otherwise specified should be given when there is pervasive

impairment in the development of reciprocal social interaction or verbal and nonverbal communication skills, or when stereotyped behavior, interests, and activities are present, but the criteria are not met for a specific pervasive developmental disorder, schizophrenia, schizotypal personality disorder, or avoidant personality disorder (APA, 2000, p. 84). For example, this category includes "atypical autism"—presentations that do not meet the criteria for autistic disorder because of late age of onset, atypical symptomatology, or subthreshold symptomatology, or all of these (American Psychiatric Association, 2010). This does not make the disorder/diagnosis less severe, but it indicates that other factors may be involved leading to more intensive testing.

The DSM-V (2013) changed the scope of diagnosis for ASDs. Under the heading of neurodevelopmental disorders, the diagnosis of ASD has become the one diagnosis to encompass all past diagnoses under the autism spectrum (autistic disorder, Asperger's disorder, & pervasive developmental disorder). Diagnostic criteria for an ASD is characterized by similar criteria found in the DSM-IV-TR, however, new severity levels must be specified in regards to the amount of support that is needed. These levels range from level 3 in which very substantial support is required to level 2 in which substantial support is required to level 1 in which the individuals require support. Each level of severity details the types of social communication and restrictive, repetitive behaviors needed to gain such a level of severity. A level of severity specification is needed for both criteria A and B involving social communication and restricted, repetitive patterns of behavior. Within the new criteria, it is noted that for those individuals who had previously been diagnosed with autistic disorder, pervasive developmental disorder, or

Asperger's disorder and have a well-established diagnosis utilizing the previous DSM-IV-TR, should be given the diagnosis of ASD. Other specifications in regard to intellectual impairment, language impairment, associated with a known medical or genetic condition, associated with another neurodevelopmental, mental, or behavior disorder, with catatonia are areas in which psychiatrists/psychologists must specify when completing evaluations.

Although the prognosis varies from one child to the next due to severity and response to treatment, most children with a diagnosis of autism are unable to live independently as typical characteristics impact daily living and have lifelong effects on the child's ability to care for himself/herself, to participate in the community, and in maintaining social connectedness. Both families and the affected child are overwhelmed by a diagnosis of autism, leading some family members to experience stress, anxiety, depression and mental illness (Hayes & Watson, 2013). These feelings of despair are often reinforced with research indicating that current treatments available are not 100% effective, a known cure has not been found and/or indicated and there have not been any indications of preventative measures known to decrease the continued increasing rates of diagnosis.

The recognition of the early signs of ASD by primary care physicians is crucial to a child and his/her family. Periodic developmental surveillance by trained and qualified health care providers is important for all young children. This routine surveillance provides an active way to identify developmental delays as early as possible. Periodic exams at 15, 18, and 24 months are particularly useful in providing information about

possible autism, since characteristics of autism often begin to emerge during the second year of life. Within the examinations, the assessment of social development as well as motor and language development should be completed. Increased knowledge of new data that supports better outcomes in children whose conditions are diagnosed early and who participate in appropriate intervention programs is needed to ensure proper care (Kasari, Freeman, & Paparella, 2006; Rogers & Vismara, 2008).

The earlier intervention begins, the better the potential outcomes (Kasari et al., 2005; Rogers & Vismara, 2008). Consequently, it is important to begin the utilization of effective interventions as soon as a diagnosis is determined. The timing of these interventions is necessary to move toward a more typical path as they may provide both alteration and guidance to brain and behavioral development (Dawson, 2008). Researchers examined the age of educational placement for children who participated in an intensive ABA treatment program (35-45 hours per week) 35-45 hours per week (Harris and Handleman, 2000). Children receiving intensive early intervention consisting of ABA programming prior to 48 months of age were more likely to achieve an inclusive educational placement in a regular education class children who began intensive early intervention after 48 months of age were likely to be offered an inclusive educational placement.

Interventions for Individuals with Autism

Much of the current research emphasizes early, intensive treatment after being diagnosed with continued research in different treatment options/modalities to assist not only the affected individual but the family component in regard to coping. Research has

indicated that the most contemporary treatment for ASD centers on both developmental and behavioral methodologies (Schreibman et al., 2015). These methodologies center on child-initiated teaching episodes, environmental arrangement, and natural reinforcement. For example, ABA is the application of behavioral principles to everyday situations with the future goal of either increasing or decreasing targeted behaviors that have been previously determined. Within the past 40 years, studies have documented the effectiveness of ABA across a wide range of populations (children and adults with mental illness, developmental disabilities and learning disorders), treatment team members (parents, teachers and staff), settings (schools, homes, institutions, group homes, hospitals and residential treatment facilities), and behaviors (language, social, academic, leisure and functional life skills, self-injury, aggression, and stereotyped behaviors; Kelly, Axe, Allen, & Maguire, 2015). ABA interventions encompass the principles of operant conditioning reinforcement, extinction, stimulus control, and respondent conditioning are utilized throughout programming (Miltenberger, 2003). ABA programming has two goals: (a) establish new behaviors or skills through shaping, prompting, transfer of stimulus control, chaining, and behavioral skills training procedures (Miltenberger, 2003; Simpson, 2005) and (b) decrease the occurrence of problem behaviors by using stimulus control, reinforcement procedures, and extinction (Miltenberger, 2003). ABA programming typically addresses areas of delayed development such as social skills, communication, adaptive skills, engagement or attending, play, imitation, and the reduction of problem behaviors (Stahmer et al., 2015).

Research has also indicated that utilization of behavioral interventions were more effective than the diverse interventions (Howard, Sparkman, Cohen, Green & Stanislaw, 2014). The diverse intervention was defined as a combination of methods, including a staff to child ratio of 1:1 or 1:2, 30 hours per week, discrete trial teaching, Picture Exchange Communication System, sensory integration therapy, and activities adapted from the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) model. Discrete trial teaching is a method derived from the principles of ABA and behavioral learning theory that breaks down information into smaller parts to teach new skills. Picture Exchange Communication System is an augmentative communication program for individuals with ASD and other disabilities who lack expressive language that focuses on teaching individuals to exchange a picture for a desired item (Downs & Downs, 2013). This program utilizes generic pictures to help the child generalize. Sensory integration therapy targets individuals who have difficulty internally organizing sensory input. Therapists guide therapy toward the proprioceptive (i.e., muscles and joints), vestibular (i.e., gravity and movement), and tactile sensory systems (Simpson, 2005) to enhance organization of stimuli. Lastly, the TEACCH model utilizes a structured teaching methodology. The teacher/therapist modifies the environment in order to accommodate the needs of the ASD individuals. The TEACCH model focuses on four main components: physical organization, visual schedules, work systems, and task organization (Simpson, 2005).

Programs to Support Individuals with Autism

Behavioral health services in Pennsylvania in 1992, were developed in an attempt to bridge the widening gap in assisting individuals with ASD to function and be able to be maintained in the least restrictive setting by providing services that provide behavioral interventions to the individual, transfer of skills to parents and teachers, and to utilize discrete trial teaching to maximize learning by breaking down information into parts. TSS workers implement behavioral strategies across all settings (home, community and school) to assist the child in developing the appropriate skills needed to function. As TSS workers assist children in schools, homes and community when a child is indicated to have behavioral issues/concerns that need intensive 1:1 therapy, access to a direct caregiver may be difficult leading the TSS worker to resume the role.

Community programs mainly rely on direct support staff for service delivery. The direct support staff significantly influence clients' lives and are responsible for providing an environment that is conducive to independence and quality (Campbell and Hogg, 2008; Forster and Iacono, 2008). In a descriptive statistics review of 19 studies in which staff training techniques were evaluated to determine if those techniques influenced client challenging behaviors, the exclusion of client challenging behaviour in staff training studies was unexpected (Cox, Dube, & Temple, 2014). Although the sample size (n = 19) was small, the findings provided significant concern as the major staffing concerns are related to client challenging behavior (e.g. high turnover rates, mental health stress, and work-related injuries). Some staff may be unaware that they may be feeding into a child's behavior or they may be unaware that they are not intervening in such a way as to stop

the true function of the behavior. Reinders (2009) found that for direct staff working with a particular client that their interpersonal relationship as evidenced by level of professionalism and quality of care builds a level of expertise (attunement to the wants and needs of the client) in which many staff may not achieve.

Professional staff such as TSS, have been medically prescribed by psychologists/psychiatrists to assist with the challenging behaviors displayed in multiple environmental settings. TSS provide therapeutic intervention in the form of ABA, role play, modeling, providing structure and consistency, etc. As TSS work with children with ASD from five hours to possibly 40 hours per week or more, the development of an attachment relationship between both individuals may develop as one may observe toward a natural caregiver (de Schipper & Schuengel, 2010).This relationship, in part, may be a factor in the display of challenging behaviors presented by the individual with ASD in various environments. These findings may in turn assist with the future development of programs focusing on professionally trained staff as a key to improving the environmental conditions under which individuals with ASD can engage. These conditions may assist in allowing ASD individuals to have more fulfilling social relationships, address the challenges in their lives more effectively and to enjoy better mental health (Schuengel et al., 2013).

Challenging Behaviors

Challenging behaviors occur at high rates in people with ASD (Kozlowski & Matson, 2012). A singular definition of a "challenging behavior" does not exist, as behaviors that typically fall into this category occur with a high level of frequency or

intensity, it interferes with the individual's learning process and results in additional anguish for the parents or caregivers (Mudford et al., 2008). Aggression, property destruction, disruptions/tantrums, self-injury, and stereotypies are the primary challenging behaviors in children with ASD (Maskey, Warnell, Parr, Le Couteur, & McConachie, 2013).

Due to the to the assorted nature of challenging behaviors, they are commonly divided into three sub-categories: stereotypic behaviors, self-injurious behaviors, aggressive and destructive behaviors, and aggressive and destructive behaviors. Self-injurious behaviors are behaviors that a person engages in by which the person does harm to him/herself (Zwaigenbaum, Bryson, & Garon, 2013). This injury occurs through the consistent application of a physical movement that is typically repetitive or rhythmic in nature. These repetitive, rhythmic movements are not pre-planned or pre-determined. Common internal drives for these externalizing behaviors include frustration, anxiety, the desire to escape an environment, or to escape the current demands of a situation. Matson and Turygin (2012) proposed that a more appropriate term may be "repetitive self-injurious behavior."

Although not considered to be a core feature of ASD, research indicates that having an ASD diagnosis predicts the presence of at least one challenging behavior (Leader & Mannion, 2016). Current estimates of the occurrence of at least one challenging behavior in individuals with an ASD rangefrom 64.3% -94.3% with no differences found between gender in overall prevalence (Kozlowski & Matson, 2012; McTiernan, Leader, Healy, & Mannion, 2011). Prevalence of challenging behaviors does,

however, vary by population type, with individuals diagnosed with ASD indicating rates of challenging behaviors higher than those found in individuals without an ASD diagnosis (Kozlowski, Matson, Rieske, 2012).

Previous research involving attachment and behavioral problems has concentrated on specific populations. These populations have ranged from parent/caregiver (Bowlby, 1984; see also Bowlby, as cited in Giddens, 1970), child-teacher relationships (Eisenhower, Baker, & Blacher, 2007), children with intellectual disabilities versus children without intellectual disabilities (Vaughn et al., 1994; Atkinson et al., 1999; Ganiban, Barnett, & Cicchetti, 2000), to child-support staff in a group care setting and/or residential setting (De Schipper et al., 2006).

Therapeutic Staff Support Working with Children Diagnosed with Autism

As the number of children diagnosed with Autism Spectrum Disorders increases, systems providing services to these children are also increasing. The US Department of Education (2015) reports an increase of over 600% in the number of children receiving ASD-related educational services within the ten years following the reauthorization of the Individuals with Disabilities Education Act in 1990 (PL 105-17). Besides educational services, children with ASD receives services in multiple settings and through multiple systems such as vocational, mental health, etc. (Lin, 2014; Koegel, Koegel, Ashbaugh, & Bradshaw, 2014). The mental health system provides varying treatment options/ interventions that are commonly associated with ASD diagnoses, but most are primarily behavioral in nature (Matson, Benavidez, Compton, Paclawskyj, & Baglio, 1996).

BHRS provides comprehensive treatment to children and adolescents diagnosed with serious emotional or behavioral disorders. Also known as wraparound services, BHRS is prescribed for children who require intervention at the place where problematic behaviors occur, such as in their home, school, and/or community. Services are prescribed by psychiatrists or licensed psychologists to children who meet medical necessity criteria. Medical necessity is defined as a level of care whether it be a service, procedure, etc. that is imperative for the proper treatment or management of an illness, injury or disability.

Medical necessity criteria is found within Appendix T of the Department of Public Welfare. Appendix T designates admission criteria, continued stay criteria as well as discharge criteria for the different behavioral health providers to utilize in creating a child-centered treatment in the home/community setting. Behavioral health rehabilitation services are an intense, community-based service, delivered by several professionals working together as a treatment team.

Through BHRS, clinicians promote developmentally appropriate behavior, activities, skills, and social skills by providing treatment based on each child's unique strengths and needs. Additionally, BHRS is intended to promote family independence by lessening the need for professional treatment and therapeutic supports. BHRS clinicians work with families on skills development and assistance in the development of community support networks.

Behavioral health rehabilitation services consist of three specialized forms of treatment/services: (a) behavioral specialist consultant, (b) mobile therapy, and (c) TSS.

A behavior specialist consultant is a highly trained individual possessing either a masters degree or doctoral degree (PhD) in a clinical field who works with children, family members, and members of the treatment team to address behavioral problems through the development and implementation of non-aversive behavior management plans/techniques. In the traditional BHRS model, behavior specialist consultants provide guidance to other members of the BHRS treatment team, rather than working one-on-one with children or adolescents. The behavior specialist consultant that works with children diagnosed with ASDs serves as the primary clinician.

A mobile therapy staff member is a highly trained individual possessing either a masters degree or PhD in a clinical field who provides child-centered, family-focused, individual and family-level psychotherapy. These individuals work with clients in numerous settings to attempt to assist them in their most needed environment and to assist in generalizing their utilization of new coping strategies.

TSS are highly trained individuals possessing either a bachelors degree or an associates degree with three years paid experience. TSS staff work one-on-one with children on therapeutic activities to address treatment plan goals. These goals have been discussed with all members of the treatment team (parents, teachers, etc.) to ensure that continuity of care occurs across setting (home, community, and school). TSS staff work with families and schools to stabilize the child in all environments and promote positive age-appropriate behavior.

Summary and Conclusions

Rutgers, Bakersman-Kranenburg, van Ijzendoorn, and Berkelaer-Onnnes (2014) determined that the ASD population is capable of formulating secure attachment relationships with caregivers (Rutgers, et al., 2014). Through meta-analysis procedures, Rutgers et. al (2014) reviewed 16 studies on attachment in children with autism and 10 studies with data collected on observed attachment security. ASD children vary in their stress responses in times of anxiety which may develop further into the exhibition of challenging behaviors such as property destruction, physical aggression toward others, and/or self-injurious behaviors **(**De Schipper & Schuengel, 2006). Gaps in research occur as specific relationships related toward direct care staff and the ASD population have not been fully evaluated. The maternal caregiver, the child's mother, is most often studied. Researchers have begun to evaluate the attachment behavior toward direct care staff but have focused on residential settings and specialized daycare settings in which more control over the setting is able to be applied (De Schipper & Schuengel, 2010; De Schipper & Schuengel, 2006). Previous research has also combined the diagnosis of ASD with intellectual disabilities, providing further difficulty in an accurate report of attachment behavior toward direct care staff with individuals diagnosed with ASD. Attachment behavior toward direct care staff has indicated to some extent, a relational dimension in a young person's attachment behavior.

The present study attempts to eliminate the combined diagnoses of previous studies of ASD and intellectual disabilities and focus entirely on the ASD population between the ages of 12 to 18 years while investigating the relationship between

attachment behavior toward TSS workers in a school setting. The school setting is one that is not able to be controlled as in previous research studies involving residential treatment facilities and specialized daycares.

Chapter 3 introduces the research methodology, the tools utilized for assessment purposes, the reliability and validity of the assessment tools used, and the process selection of participants within the study. The rationale for analyses of data is also discussed in further detail.

Chapter 3: Research Method

Introduction

I examined the attachment levels of individuals with ASD toward professional staff (TSS) and the display of self-injurious behavior, stereotypical behavior, and aggressive behaviors. This correlational study involved a quantitative approach based on data that was gathered from the SBSHO List (De Schipper & Schuengel, 2006), a tool that generates interval data for attachment levels. In addition to the SBSHO List, the BPI (Rojahn et al., 2001), was completed. Chapter 3 contains both the description and justification of the research design and the approach that was utilized to evaluate the level of attachment toward professional staff (TSS) exhibited by individuals with ASD. A discussion of the population sample, a justification of the sampling method, eligibility criteria for participants, and characteristics of the sample are also provided. The chapter also describes instrumentation, materials, and procedures for data analysis utilized in the study along with the measures to protect participants' rights. The chapter concludes with a summary and brief preview of Chapters 4 and 5.

Research Design and Rationale

The quantitative, correlational design allowed me to determine whether there was a predictive relationship between the independent variables (level of attachment and amount of time working) and the dependent variable: total score on the BPI. A quantitative method was preferred for the research questions, as other statistical methods would not assess the direct relationship between variables. Numerical data from observations, experimentation, surveys, or measurement tools (e.g., self-report, structured

interviews) are statistically analyzed to examine the relationship among variables within quantitative studies (Creswell, 2009). Thus, the design helped answer the following research questions:

Research Question 1: Is attachment toward TSS workers by individuals diagnosed with ASD predictive of the display of challenging behavior, as measured by the SBSHO List and the BPI?

Research Question 2: Is the amount of time TSS work daily with an ASD individual client predictive of the display of challenging behavior, as measured by the SBSHO List and the BPI?

The current design choice is also consistent with research designs needed to advance knowledge in the discipline as it allows for the examination of the relationship between variables. The current research design allowed me to examine the relationship between variables related to the level of attachment behavior of an ASD child toward professional staff and the display of challenging behaviors (e.g., self-injurious behavior, stereotypical behavior, and aggressive behavior). These variables were further measured by instruments so that numbered data can be analyzed by statistical measures (Creswell, 2013). A multiple linear regression analysis was utilized to test the current hypothesis. Multiple regression is a statistical method used for studying the relationship between a single criterion variable and one or more predictor variables. It can be used to predict how one variable will change in relation to changes in another based on their values if the strength of the predictors is found to be sufficient (Mertler &Vanatta, 2005).

Methodology

Setting

The location of the study took place through six behavioral health agencies in northeastern Pennsylvania. All six behavioral health locations specialized in outpatient care. Each provider varies in the number of clients they service from 50 clients to 350 clients. Each provider conducts behavioral health services in the form of behavior specialist consultant, mobile therapist, and/or TSS. These services are based on a one-to-one staff–client ratio. Times, locations, and criteria of the participants were provided to the directors of each agency. Each session was held at a classroom room in which the teacher had agreed to participate along with TSS. Additional sessions were provided upon request if additional participants were interested.

Participants

The targeted participants for this study were TSS working with individuals between the ages of 12 and 18 years of age who met the criteria for ASD (299.00) as prescribed in the DSM-V. Individuals diagnosed with ASD are prescribed and receive TSS services within the home/community/school setting via a psychological or psychiatric evaluation. To guarantee the statistical power needed to ensure inferences to the targeted sample as a whole, 128 TSS workers were needed.

Participant and Participant Procedures

A convenience sampling was utilized, as it provides the availability to the researcher of a particular group (Creswell, 2009). The current rate of ASD as determined by the CDC is 1 in 68 children. Although this number has risen significantly in the past

few years, the combination of an ASD and receiving TSS services is not generalized over the ASD population as a whole. The participants for this study were adults working with individuals between the ages of 12 and 18 years of age diagnosed with ASD and receiving TSS services. The convenience sample was selected from six behavioral health agencies throughout northeastern Pennsylvania in which services for ASDs were provided.

Six behavioral health agencies across northeastern Pennsylvania were notified of the upcoming study via the U.S. Postal Service and/or e-mail to the director of the program. Both inclusion and exclusion criteria were provided. Eligible participants working as TSS workers with children diagnosed with ASD between the ages of 12 and 18 years of age were included, and TSS workers working with children with any other type of mental health disorder besides ASD were excluded. Teachers within the specialized classroom in which TSS services are taken place were also included.

Sample size justification. Three factors were involved in determining/calculating the sample size for the current study: level of significance, the effect size of the study, and the power of the study. The sample size determined to be statistically significance was at least 128 TSS workers recruited from various behavioral health agencies in northeastern Pennsylvania. The current participant size of 128 allowed the study to have the necessary statistical power to infer the results of this study to the targeted population. Power is the ability to find a statistically significant difference when the null hypothesis is false; it is the ability to detect a difference when it exists. The power of a study is determined by three factors: the sample size, the alpha level, and the effect size (Cohen,

1992). The calculation of the sample size was determined by conducting a priori power analysis in which power = .80, alpha = .05, the effect size is medium (f = .30). Thus, the measurement of minimum power needed to be equal to 80% for the current study (Keuhl, 2000). In most studies, the effect size measurement can be divided into three different categories: small, medium, and large. A sample size of 128 TSS allowed a medium effect size at alpha = .05.

Procedures for Recruitment, Participation, and Data Collection

I provided the director of each of the six behavioral health agency that service the ASD community in northeastern Pennsylvania as well as the principals of area schools in which TSS complete services with an informational packet by post office mail and e-mail regarding the current study. This packet of information detailed the following: (a) description of the study, (b) information about me as the researcher, (c) inclusion criteria for the study, and (d) invitation for interested individuals to participate in the current study. After receiving permission from the agencies, a schedule of dates, times, and locations was provided to TSS participants to choose from for their attendance. Participants were also provided my e-mail address. Both inclusion and exclusion criteria for participation in the study was included within the informed consent.

Once eligibility had been determined and informed consent had been provided, the TSS worker provided their signature on the informed consent document to ensure their willingness to partake in the current study. I provided verbal directions for each instrument provided in the participant packet. The TSS worker was provided with a coded manila envelope containing the following information to complete: (a) SBSHO

List, (b) consent form, and (c) survey on classroom teacher (Appendix F). Once each instrument had been completed, the participants returned their completed forms to their coded manila envelope and returned them to a designated completion basket. The teacher was provided with a coded manila envelope containing the following information to complete: (a) BPI, (b) consent form, and (c) letter to teacher (Appendix G). Again, the participants returned their completed forms to their coded manila envelope and returned them to a designated completion basket. Each assessment was reviewed for completion prior to being scored. I assessed response rates by reviewing handed in assessments for completion and then determining if more sessions were needed. Additional times and dates were needed toward the end of the data collection process, as I had difficulty attaining 128 participants due to summer break and schools being out of session for varying time frames. Data were stored in a secure locked box with access only known by me.

Instrumentation and Operationalization of Constructs

Secure Base Safe Haven Observation List. The SBSHO List (Appendix B) consists of a 20-item observation list using a 7-point Likert-type ratings. The formulation of this assessment tool was derived from the Attachment Q-Set (Waters, 1995), which helped examine the relationship between secure base behavior at home and strange situation classifications. The SBSHO List is an appropriate instrument for this study, as it is used to explore the level of attachment in relationships through observation. This instrument has been utilized on individuals with moderate to severe intellectual disabilities from the ages of 3 to 23 years of age. Researchers have determined that the

internal consistency (Cronbach's α) measured 0.93. The inter-rater reliability was determined to be moderate: r = 0.60 ($p < 0.001$).

According to researchers, the SBSHO List has potential clinical value due to its ability to contribute to the explanation of challenging behavior as well as sensitization of caregivers to attachment behaviors that might otherwise be missed or misinterpreted (Schuengel et al., 2012). Furthermore, identifying caregivers on the basis of secure attachment behavior might be more relevant for promoting mental health in care planning and staff allocation then the identification of a favorite caregiver as it is often based on proximity seeking or play activities.

I secured a copy of the SBSHO List after directly contacting Dr. De Schipper, co-author of the SBSHO List, via e-mail inquiring as to the availability of the instrument for review. Permission to use the instrument in this study was granted by Dr. De Schipper as evidenced by e-mail consent. A copy of all correspondence between myself and Dr. De Schipper are available in Appendix C.

Behavior Problems Inventory. The BPI (Appendix D) is an informant-based, 52 item rating scale that assesses maladaptive behaviors exhibited by inidivuals with intellectual disabilities. These maladaptive behaviors are divided into the following sub-categories: self-injurious behaviors, stereotyped behavior and aggressive/destructive behavior. This tool addresses these three behavior categories in great detail. Each item is rated on a frequency scale (0 = never to 4 = hourly), and a severity scale (0 = no problem to 3= severe problem). The BPI has been utilized in residential facilities and developmental centers. This instrument has been found to be reliable and valid

measurement of its constructs (González et al, 2009 and Rojahn, Matson, Lott, Esbensen & Smalls, 2001).

Previous studies have examined the psychometric properties of the BPI. A comprehensive psychometric analysis was conducted by Rojahn et al. (2012). Researchers determined that the internal consistency (Cronbach's α) of the self-injurious behaviors subscale was .74 and .73 (for the frequency and the severity scales respectively), for the Stereotyped Behavior scale .89 and .90, and for the Aggressive/Destructive Behavior scale .92, and .90. Internal consistency refers to the extent of correlation between items on a measure or the first half of the measure with the second half of a measure. Evidence for strong convergent and discriminant validity was found (Rojahn et al., 2012b).

Internal consistency of the BPI total score across the three levels of measurement ranged from .85 to .90. For the subscale scores, self-injurious behaviors ranged from .42 to .69, Stereotyped Behavior ranged from .82 to .86, and Aggressive/Destructive Behavior ranged from .76 to .81.

Test-retest reliability refers to the consistency between scores by the same rater after brief periods of time. Test-retest reliability for the BPI indicated statistical significance at the .01 level, ranging from .41 to .64 (mean = .53). Intra-class correlations were calculated and found to have coefficients ranging from .68 to .80. A copy of the BPI is available in Appendix D.

Data Analysis Plan

Data was analyzed using SPSS version 25.0 for Windows. Descriptive statistics were generated, including frequencies, percentages as well as means and standard deviations. The dependent variable of the study includes the total score self-injurious behavior, stereotyped behavior and aggressive/destructive behavior on the BIP. The dependent variable was operationalized as a continuous variable based on responses from the BIP. Level of attachment [secure or insecure] and amount of time working daily with an ASD individual client functioned as the independent variables. The independent variable was operationalized as a binary variable based on responses from the SBSHO List. The amount of time spent working with a client was analyzed as the covariate. The addition of the covariate provides the necessary factor for a standard multiple regression analysis. The following research questions and hypotheses were explored:

Research Question 1: Is attachment toward TSS workers by individuals diagnosed with ASD predictive of the display of challenging behavior, as measured by the SBSHO List and the BPI?

$H_0 1$: Attachment as measured by TSS workers' scores from the SBSHO list is not a significant predictor of the teachers' scores on the BPI, an indicator of challenging behaviors.

$H_a 1$: Attachment as measured by TSS workers' scores from the SBSHO list is a significant predictor of the teachers' scores on the BPI, an indicator of challenging behaviors.

Research Question 2: Is the amount of time TSS work daily with an ASD individual client predictive of the display of challenging behavior, as measured by the SBSHO List and the BPI?

$H_0$2: The amount of time TSS work daily with an ASD individual client is not a significant predictor of the exhibition of challenging behavior.

H_a2: The amount of time TSS work daily with an ASD individual client is a significant predictor of the exhibition of challenging behavior.

Multiple linear regression. Standard multiple regression is utilized to evaluate the relationships between a set of independent variables and a dependent variable (Montgomery & Peck, 2015). In standard multiple regression, all of the independent variables are entered into the regression equation at the same time for analysis. Multiple R and R^2 measure the strength of the relationship between the set of independent variables and the dependent variable. An F test is used to determine if the relationship can be generalized to the population represented by the sample. A t-test is used to evaluate the individual relationship between each independent variable and the dependent variable.

Child variables such as age, gender, level of support were collected and analyzed. These variables may affect the dependent variable and may skew the actual relationship between both the dependent and independent variable leading to suppression of key points.

Threats to Validity

External Validity

Population validity is the extent in which results of a study can be generalized from the specific sample that was studied to a larger group of subjects. In the current study, this may be a concern as the population being studied (TSS) is dependent on working with the ASD population. Although this population has been increasing, the sample size of 128 TSS is small in comparison. Also, the availability of behavioral health services in the form of TSS are not available across the United States. Different states have various treatment options available. I attempted to increase the sample size within the data collection window of opportunity, however I was unable to do so.

Internal Validity

History refers to any event other than the independent variable that occurred in or out of the experiment that may account for the results of the experiment. In the current study, history may affect the participant as they may have had a session with their client which may have been very positive or very negative leading their responses to be biased when completing the assessments. I verbally directed participants to provide answers to the assessments based on the information that they have viewed over the past two weeks. I reminded participants not to focus on the extreme positive behaviors and/or negative behaviors of their client as it may lead to data being skewed. A low response rate in regard to participants may threaten generalizability and statistical inference towards data results. I opened the study to extra sessions to increase response rate.

Construct Validity

Construct validity ensures that the test measures what it claims to be measuring. At this point in time, threats to construct validity are not foreseen.

Statistical Conclusion Validity

Dependent on the sampling size that is obtained, statistical conclusion validity may or may not be a concern. If the sample size is lower than the 128 individuals that was calculated, a Type II error may occur. If in the likelihood, the sample size is lower than previously calculated the researcher will open the study to private schools and autism community support groups. Confounding variables such as age, severity of disorder, etc. will be analyzed to determine the extent in which the relationship is affected.

Ethical Procedures

I utilized several measures to safeguard the identity and safety of the participants. In order to provide protection to the participants, I maintained the following parameters: gained consent forms from all participants actively involved within the study, maintained privacy and confidentially, and guaranteed the protection of participants. Before conducting this research, I sought permission from all administrative executives involved in this study. Consent forms were developed to provide parties with sufficient information to give consent for this researcher to perform the research. A consent form was disseminated to seek permission from certified personnel within the targeted behavioral health agencies. The initial step was in obtaining approval from various local behavioral health agencies located in northeastern Pennsylvania. Once it was approved,

contact between all parties occurred to maintain continuity. The research sites were located at local classrooms located in northeastern Pennsylvania who had TSS working with children diagnosed with ASDs.

I followed specific steps to seek approval to conduct research within the behavioral health agencies. These steps included (a) the researcher's personal information involving committee information, contact information, etc. were disclosed, (b) a summary of the study's purpose was provided, (c) identification of all proposed behavioral health agencies that were utilized in data acquisition was provided, (d) a signed confidentiality statement was included, (e) IRB approval is necessary and written notice was provided upon request, (f) all survey instruments, questionnaires, and so forth were disclosed, and (g) all consent forms were presented.

Protection of participants' rights. Careful appraisal of possible side effects from participating in this study occur to ensure maximum safety and confidentiality. All participants received an informational packet for participating in the current study that included the following documents: consent forms outlining study procedures, participant requirements, confidentiality issues, the voluntary nature of the study, potential risks and benefits of participation, and contact information for the researcher and her committee chair in the event that specific questions should arise. Participants were also be informed of their right to withdraw from the study at any time. There were no physical safety risks or benefits from this study. In addition, there were no potential benefits or risks related to symptoms, as no treatment was applied or withheld for the purpose of the study.

Participants were instructed to refrain from completing any elements of the study protocol that created what they felt was overwhelming distress for themselves.

Full disclosure was given to the participants. The informational packet provided to participants provided answers to questions and information to contact the researcher if there were any further questions and/or concerns. Selection of participants was based on a convenience sample. The target group was TSS workers who worked with children between the ages of 12 and 18 years of age diagnosed with an ASD who received behavioral health services in the form of TSS and school teachers of specialized education classrooms in which TSS services take place. The local geographic area of concern was restricted to northeastern Pennsylvania. The participant pool was obtained from six local behavioral health agencies providing TSS services for the ASD population.

Researcher's role. The researcher's role included the development of permission forms in relation to human participants, discussion of procedures during the study, seeking permission to conduct the study within multiple sites, and providing feedback on ethical issues that may arise. The researcher also brought forth past experiences to enhance the current research study as well as to make connections between herself and the designated research sites (Creswell, 2003). As the primary investigator of this study, the researcher maintained contact with the behavioral health agencies in which TSS workers were working with children diagnosed with ASDs on a regular basis. Prior to administering any research, all IRB guidelines (IRB reference number:10-23-17-0123950) were satisfied by obtaining the necessary administrative compliances. Data

analysis from specified measures were evaluated to accurately target perspectives on attachment behavior of children diagnosed with an ASD as directed to their TSS worker.

Summary

In chapter 3, a description of the research methodology of the current study is provided. The quantitative and correlational design of the study allowed for the determination of the relationship between the independent variable (attachment level) and the dependent variable (challenging behaviors). Chapter 3 included information on the appropriateness of the research design, the proposed research questions and hypotheses, targeted population, sample size justification, and both data collection and analyses. Lastly, Chapter 3 summarized the ethical concerns, the research process, protection of the participants' rights and the researcher's role. In chapter 4, I presented the data that had been collected. After data review, I addressed each individual research question and provided an analysis of the data. Lastly, Chapter 5 discussed the results, limitations to the current study, recommendations for continued research, and the relevance of this study to social change.

Chapter 4: Results

The purpose of the current study was to investigate the correlational relationship between levels of attachment of adolescents with ASD toward their TSS workers and the exhibition of challenging behaviors. This quantitative, correlational study allowed me to assess determine the predictive relationship between the level of attachment and the total score on the BPI. This also allowed me to answer the research questions, which were related to whether there is a difference between types of attachment (i.e., secure vs. insecure) toward TSS workers and challenging behavior as well as whether amount of time with TSS can predict challenging behavior. Participants completed the SBSHO List (De Schipper & Schuengel, 2006) and the BPI (Rojahn et al., 2001). A convenience sample of 128 male and female TSS or teachers of a child with ASD participated in the study. Data were analyzed using SPSS 25.0 for Windows. Survey data were collected from April 1, 2018 to September 28, 2018. Surveys were administered in person via paper and pencil. After review of completed responses, a final sample size of 128 respondents was included in the final analysis. Chapter 4 presents a description of the data collection, an evaluation of the statistical assumptions, and the results from the multiple regression analysis.

Results

Descriptive statistics for the sample and results of the regression analyses are presented in this section. Calculations were done for means and standard deviations, frequencies, and percentages for the categorical variables. A multiple linear regression was conducted utilizing the total score of the BPI, total score of SBSHO List, and total

overall length of time in years working as a TSS as potential predictors of the quality of the attachment-challenging behavior relationship.

Descriptive Statistics

Participants responded to a screening question prior to accessing the measures that comprised the survey. All participants reported that they were TSS and/or teachers (*n* = 128, 100%). Participants also reported working with a child diagnosed with ASD between the ages of 12 and 18 years of age (*n* = 128, 100%). This indicated that all the respondents met the inclusionary criteria for the study. Participants were also asked to report the following demographic information on the BPI regarding their relationship (the respondent's) to the child: gender, time spent per day with the child, and total length of time in which they had worked with the individual. The respondent was also asked to report the following demographic information for the targeted individual: age and gender. Descriptive statistics are in Table 1.

Table 1

Descriptive Statistics

	N	Min.	Max.	Mean	*SD*
Age	128	12.00	18.00	14.92	1.90
Time spent with client in 1 day	128	2.00	7.00	4.36	1.37
Overall length of time with client	128	1.00	7.00	2.75	2.15
Total score on BPI	128	10.00	61.00	33.19	14.72
Total score on SBSHO List	128	22.00	152.00	86.02	26.54

Participants of the study indicated that they were mostly female (*n* = 109, 85%). They also indicated that they worked with children diagnosed with ASD between 2 to 7 hours per day. Approximately 48% of participants worked with ASD individuals 3 hours

per day (*n* = 30, 23%) and 6 hours per day (*n* = 32, 25%). Regarding length of time in which the participants had worked with the individual, most had worked less than 1 year with their client (*n* = 58, 45%). Demographic characteristics for participants are presented in Table 2.

Table 2

Frequency Table for Demographic Characteristics of Participants

Variable	*n*	%
Time spent with client in 1 day		
2 hours	11	9
3 hours	30	23
4 hours	27	21
5 hours	25	20
6 hours	32	25
7 hours	3	2
Length of overall time worked		
Less than 1 year	58	45
1 year	15	12
2 years	23	18
3 years	5	4
4 years	5	4
5 years	4	3
More than 5 years	18	14
Gender		
Male	19	15
Female	109	85

Participants indicated that the child diagnosed with ASD with whom they worked were mostly male (*n* = 124, 97%). Regarding age, data indicated that approximately 37% of the participants were either 16 years of age (*n* = 27, 21%) and/or 15 years of age (*n* = 20, 16%). Demographic characteristics for children with ASD are presented in Table 3.

Table 3

Frequency Table for Demographic Characteristics of Children with Autism Spectrum Disorder

Variable	*n*	%
Age of child with ASD		
12 years old	19	15
13 years old	19	15
14 years old	14	11
15 years old	20	15
16 years old	27	21
17 years old	15	12
18 years old	14	11
Gender		
Male	124	97
Female	4	3

Although I was able to obtain 128 participants, there is still a probability that a Type II error did occur equal to 1- power. Both power and effect size were pre-determined by establishing the sample size which was met.

Evaluation of statistical assumptions. I assessed the assumptions of normality, homoscedasticity, and multicollinearity. I compared the calculated values for kurtosis and skewness to the guidelines established to indicate that the data distribution differs slighty from a normal distribution. The critical values were -.021for skewness and -1.08 for kurtosis (West & Henning, 2013). When the skewness is between -0.5 and 0.5, the distribution is approximately symmetric. When the kurtosis is less than 0, the data is considered “light-tailed” and is called a platykurtic distribution. The Shapiro-Wilk test was conducted to test for normality. The results of the Shapiro-Wilk test indicate that the data distribution did not differ from a normal data distribution; therefore, the assumption of normality was met. Table 4 represents the resultsof the Shapiro-Wilk test for normality.

Table 4

Results of the Normality Testing for the Total Score of the Behavior Problems Inventory

	Statistic	*df*	*P*	Skewness	Kurtosis
Total score of BPI	.952	128	.000	-.021	-1.08

To assess homoscedasticity, I examined a residual scatterplot for the predicted versus standardized data. The points appeared to be distributed about a mean value of zero and curvature was not found in the plot. Therefore, the assumption of homoscedasticity was met. Figure 1 presents the residual scatterplot for homoscedasticity.

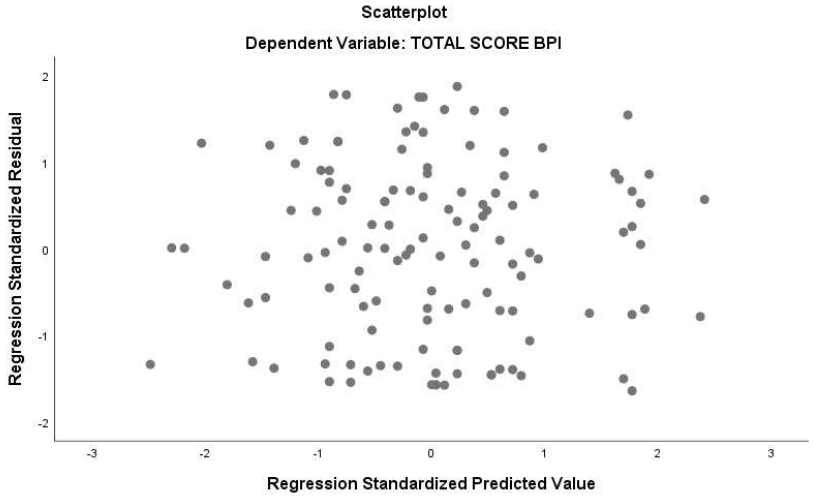

Figure 1. Residuals scatterplot for homoscedasticity.

Multiple linear regression analysis. I conducted a multiple linear regression analysis to assess the relationship between the dependent and independent variable. The variables utilized for the multiple linear regression were the total score on the SBSHO List and the time spent with ASD per day in the school setting, to predict a relationship with the total score of the BPI.

Table 5

Results of the Multiple Linear Regression Analysis

Variable	*B*	*SE*	*β*	*t*	*p*
Total score on SBSHO List	-.02	.05	-.04	-.48	.657
Time spent with ASD client per day	-.05	.98	-.00	-.05	.962

Note. $F(2,125) = .10$, $p > .05$, $R^2 = 0.00$.

A multiple linear regression analysis was calculated predicting challenging behaviors based on the total score of the SBSHO List and the TSS total time spent per day with an ASD client in the school setting. The regression equation was not significant ($F(2, 125) = .10$, $p > .05$, $R^2 = 0.00$).

Summary

I investigated the predictive relationship of the exhibition of challenging behaviors through levels of attachment and time spent daily with an individual client. I conducted a multiple linear regression analysis to determine if there was a statistically significant relationship between the predictor variables and the criterion variable. I did not determine that there was statistical significance between the total score of the BPI and the total score of the SBSHO List and the total time spent working with ASD client per day. In Chapter 5, an interpretation of the findings, the limitations of the study, and recommendations for future research is presented.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative study was to determine whether the attachment levels of individuals with ASD toward professional staff (TSS) have a significant impact on the display of self-injurious behavior, stereotypical behavior, and aggressive behaviors. Researchers have indicated the importance of attachment behavior for the prevention of dysregulated behavior due to emotional stress (De Schipper & Schuengel, 2010). But prior research has not identified attachment behavior among children diagnosed with ASD toward TSS in a school setting in relation to the exhibition of challenging behaviors.

The data were analyzed using a multiple linear regression analysis. The results of this study did not indicate that there was a significant correlational relationship between the total score of the BPI and the total score of the SBSHO List as well as the total time spent working with an ASD client. In this chapter, I will discuss in greater detail the findings of this study in the next section. I will also discuss the limitations of this study, followed by recommendations for future research and implications for social change. The chapter will end with conclusions for this study.

Interpretation of the Findings

In this section, I will present an interpretation of the findings of the research questions and a synthesis of the research findings. Children diagnosed with autism are similar to detached children regarding their ability to utilize comfort seeking behaviors (Bowlby, as cited in Giddens, 1970). Children experiencing detachment or autism are more likely to not seek comfort from a parent when in pain or tired. In similar studies

involving individuals with intellectual disabilities, individuals with intellectual disabilities were more likely to have a type of insecure relationship with their parents when compared to typical peers indicating no delays (Atkinson et al., 1999; Ganiban et al., 2000; Vaughn et al., 1994).

In this research, I found that the total attachment score of the SBSHO List did not indicate a significant correlation with the exhibition or the decrease of challenging behaviors displayed by children diagnosed with ASD as reported on the BPI. These results suggest that the attachment level indicated toward professionals may not have a significant influence on the display or lack of the display of challenging behaviors exhibited by individuals diagnosed with ASD. There are several reasons why the current study was unable to find a significant relationship between the variables. First, I specifically recruited TSS from local community agencies who worked in autistic support classrooms. It may be that the teachers made judgements on behavioral trends over a longer length of time, as it was possible for the TSS to work with the child for a longer period of time. Length of time in which TSS worked with the individual also changed from one participant to the next.

Second, the children diagnosed with ASD also have access to services, supports, and resources that may be a factor in the exhibition if challenging behaviors. Often, there is a whole term of individuals supporting ASD children. County developmental offices, behavioral health agencies, vocational mentoring opportunities, transition teams, speech, occupational and physical therapies provide children with an integrative community support system.

Third, maladaptive behaviors may be modeled from peers within the classroom. The age group in that was studied, 12 to 18 years of age, is one that may indicate high frequency of maladaptive behaviors due to hormonal changes found in adolescents experiencing puberty. Negative behaviors may be viewed from peer to peer, and the imitation of these behaviors is possible. Selective attention by ASD individuals within the classroom may distract students from their tasks and allow students to focus on maladaptive behaviors that may have been reinforced for years leading to their engagement in challenging behavior.

Limitations of the Study

There were several limitations to this study. The first limitation was the generalizability of the results. Participants of this study were based on a convenience sampling from behavioral health rehabilitation agencies working with ASD clients. Convenience sampling lacks the generalizability of a random sample of participants. Though some demographic diversity was found within the study population, there were several areas that lacked variability including gender and time in which TSS had worked with their client.

Response bias may also be a limitation in this study. The methodology used for this research was a survey design, which allows self-reporting from participants as well as a report of observations by others. Participants were asked to respond truthfully to the instructions for completion. However, there is no way to determine if participants had responded truthfully or if the participants had responded in a way that made them appear to be more favorable such as in the social desirability bias.

Another limitation of this study was the inability to determine causality. As indicated previously, a multiple regression analysis was utilized to determine/identify a predictive relation between independent variables and one dependent variable. As the current study was not an experimental design, causation could not be determined.

Potential confounds could also be a limitation of this study. Psychotropic medications, family support system/engagement level, or structure of the classroom could have impacted the results of this study. In addition, researcher bias may be a limitation. Although, the researcher excluded TSS and classroom teachers in which she worked, it is possible that the study was discussed amongst professionals.

Recommendations

Response rates for research participation was initially very slow. The time frame for data collection was extended. Though the sample size attained was in the parameters for the recommended number of participants based upon the power analysis, there was a lack of variability in gender of the participants as well as the time in which participants worked with their ASD clients. This limited the generalizability of the research findings due to lack of male respondents. Future research should target increasing participation of male staff working with children diagnosed with ASD. Future research targeting staff working with female ASD clients may also help to identify if attachment levels are correlated with exhibition of challenging behaviors.

Additional research should be conducted specifically for ASD clients who are not only involved in behavioral health rehabilitation services but also receiving psychotropic medication to decrease maladaptive behaviors as well as possible seizure disorders. This

factor could have a direct impact on responses from participants, as their viewpoints on the exhibition of challenging behaviors may be decreased due to this variable. Research measuring the same factors only on individuals currently engaged in the utilization of psychotropic medication may yield different results.

Lastly, the structure of the educational placement may be an area of future research. Although the current study specified a special education classroom, there are different types such life skills, emotional support, and autistic support. Within each of these classrooms is a different teaching model. For instance, in autistic support classrooms, the teacher may follow a verbal behavior schedule in which the student works in 15-minute increments with multiple staff and receives breaks throughout the day. This schedule is very structured and routine with little time for down time. This type of classroom may influence the exhibition of challenging behaviors leading to varying participant responses.

Implications

The findings from this research provide several implications for social change at the family, organizational, and societal levels. This research has provided additional thought to the limited body of knowledge on level of attachment displayed involving individuals diagnosed with ASD and their display of challenging behaviors. As the ASD population continues to increase, behavioral health supports are being utilized to assist with challenging behaviors in a variety of settings. Although the researcher did not determine statistical significance between attachment levels and behavior problems indicated, the data does indicate that the population of individuals working with the ASD

community are mostly female. As indicated by the CDC (n.d.) 1 in 68 children are diagnosed with ASD and 1 in 4 of those individuals is male.

Community programs are shifting to assist with the ASD community from early intervention to adult programming. Unfortunately, the need continues to be high as programs are trying to adapt to find methods that delve in evidence-based practices such as applied behavioral analysis. Behavioral health rehabilitation services have indicated changes in their hiring routines as decreased numbers of individuals are entering the "helping fields" as college students. The state regulations for Pennsylvania in regards to the needed degrees and work experience requirements have not changed in over twenty years. Programs are struggling to find qualified employees to continue to work with the ASD population. As such, the increased rates of staff leaving has indicated a "revolving door." It may not be possible for ASD children to form attachment behaviors towards their TSS as there continues to be so many changes in staffing. Data indicated that 45% (n= 58) of the participants had worked with their client for less than 1 year.

Conclusion

This study was conducted to fill in the gap in literature as attachment levels have not been explored on an outpatient basis with professional staff. As indicated by the CDC (n.d.), 1 in 68 children are diagnosed with ASD and 1 in 4 of those individuals is male. The service base supporting the ASD community/population is evolving as the needs of the clients change. Previous research findings have indicated that increases or decreases in the display of challenging behaviors may be correlated with staffing schedules and/or staffing changes in residential and/or specialized daycare settings (controlled

environments) (Schuengel, Kef, Damen, & Worm, 2012; De Schipper & Schuengel 2010).

Although the current study did not find that attachment level was a predictor of challenging behavior, it did bring forth results that indicated a high frequency of female (85%) TSS workers with a male dominated diagnosis. It also indicated that the time the TSS spent working with a client decreases over time as amongst our sample, 25% of participants worked with ASD clients more than 3 years.

This study has made contributions to the body of knowledge on attachment and ASD as well as behavioral health rehabilitation services that are not found within all fifty states of the United States. It provides insight on the continued display of challenging behaviors with or without secure attachment. As system changes occur with staffing in organizations, the ability to promote secure attachment may be limited. Findings from this study may propel the work of future researchers to identify how to meet the organizational needs of agencies to increase the quality and longevity of professionals working with the ASD community and population.

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Appendix A: Secure Base Safe Haven Observation List

A copy of the Secure Base Safe Haven Observation List can be requested by contacting J.C. de Schipper.

Appendix B: Permission to Utilize SBSHO

Schipper, J.C. de [redacted] 7/9/13

to me, Schuengel

Dear Karen,

Thank you for your interest in our research.

It's good to learn the observation list might be applicable in different settings for children with special needs.

I can sent you the observation list through email.

It is ok to use the measure in your own service organization and or research project, but please do not copy or forward the measure to other institutes/colleagues. If colleagues from outsite are interested, please let them contact me and I will be happy to help them out.

If I can be of any help, just let me know.

Best regards and good luck with your study.

Clasien

Appendix C: Behavior Problems Inventory

A copy of the Behavior Problems Inventory (BPI-S) can be requested through Johannes Rojahn, Ph.D.

Appendix D: Permission to Utilize the BPI

Johannes Rojahn via [redacted] Mar 15 (13 days ago)

to me

Ms. Kotchik,

attached is a copy of the BPI-S with rater and scoring instructions. You have my permission to use the instrument for your dissertation.

Good luck,

JR

Johannes Rojahn, Ph.D.
Professor Emeritus

Appendix E: Classroom Teacher Survey

TSS:
Please provide the following information regarding the current classroom in which you provide BHRS services in the form of TSS.

1. What is the name of the school in which you provide TSS services?

   _____

2. What is the type of educational placement? (life skills, autistic support, emotional support, multi-handicapped, etc.)

   _____

3. What is the teacher's name?

   _____

4. Please provide the initials of your client (initials for first name and last name) so that the teacher is aware of what student she/he is completing an assessment.

   _____

5. Please provide your intials (TSS initials) so that the teacher does not confuse the student information as there may be multiple TSS participating in the study.

   _____

Appendix F: Letter to Teacher

Teachers:

The TSS in your classroom have provided your name as the teacher in which they provide TSS services. Listed below is a list of initials for both student and TSS.

Student Initials: _____

TSS Initials:_____

When completing the Behavior Problem Inventory please refer to the exhibition of challenging behaviors by the above listed student.