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Kindergarten Transition Practices for Students with Autism Spectrum Disorder

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May 13, 2011

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### **Abstract**

The educational classification of Autism has increased significantly in recent years. Schools are now facing new requirements and expectations to provide appropriate services to meet the needs of students with Autism Spectrum Disorders (ASD). The kindergarten transition is the first major educational transition in a student's educational career. It is a particularly important transition for students with ASD because a successful kindergarten transition leads to better academic outcomes and better generalization of skills developed in the preschool setting (McIntyre et al., 2006). However, students with ASD begin with significant risk of an unsuccessful transition to kindergarten due to qualitative impairments in social-communication and behavior. The use of recommended practices in kindergarten transition increases the chance of a successful transition for students with ASD. The current study aimed to identify the current use and perceived importance of best kindergarten transition practices for students with ASD, identify barriers of implementing kindergarten transition practices for students with ASD, identify predictors of use of transition practices for kindergarteners with ASD and identify differences on the reported use of transition practices between professional groups and educational settings. A reliable Transition Practices Scale was developed ( $\alpha = .927$ ) as used as the main measure for the study. It was found that current use of best transition practices is far from optimal despite the high degree of perceived importance. Predictors of the use of

transition practices differed somewhat across professional subgroups and settings although regression analyses were limited by low statistical power. No significant differences in the reported use of best transition practices were found across professional subgroups and settings. Although more research is needed, the present study indicated that more professional training is needed for those working with children with ASD who are transitioning to kindergarten to help ensure positive outcomes for these students.

## Chapter I

### Statement of the Problem

Autism Spectrum Disorder (ASD) is characterized by core features that include: social impairment, deficits in communication, and restricted range of interests and repetitive behaviors (APA, 2000). Many students with ASD also have intellectual impairments (Stahmer and Aarons, 2009), and a range of academic, emotional and behavioral problems. The vast majority of individuals with ASD exhibit significant functional impairments and require various levels of supports and services throughout their lifetime. The educational classification of Autism has greatly increased over the past decade (US Department of Education, 2007). Improvements in diagnostic practices allow for ASD to be identified before the age of five, thus creating a large number of students entering the school system under the classification of Autism (Stahmer and Aarons, 2009). The unique learning and behavioral support needs of students with ASD require specialized instructional approaches to help them achieve favorable outcomes, including specialized approaches to helping young children make the transition from preschool to kindergarten.

Transitions in general, whether it be from one activity to another or one setting to another, are difficult for children with ASD (Peck & Scarpati, 2009). These difficulties are often characterized by problems such as aggression, non-compliance, tantrums, and a lack of

consistent participation in activities. Skills that have been acquired in one setting are less likely for students with ASD to generalize when transitioning into a new setting. Students with ASD are often in need of more individualized instructional approaches that have also been found to be applied inconsistently across settings making the educational transition more difficult (Forest et al., 2004). Due to the deficits in social and communication skills, transitions across settings are a particular challenge for students with ASD (Forest et al., 2004).

The transition to kindergarten for students with ASD marks a significant point in the child's life. It is the first major school transition for a child. A successful kindergarten transition process leads to better academic outcomes and better generalization of skills developed in the preschool setting (McIntyre et al., 2006). In order for the transition process to run smoothly it is beneficial for the child to possess social skills and an average cognitive functioning level (Rodus, Hallam, Harbin, McCormick, & Jung, 2005). These factors are often deficits for children with ASD and may place them at risk for a poor transition to kindergarten. Poor transition to kindergarten is often characterized by behavioral problems, academic performance problems and social problems with peers. Also, students that experience a poor transition are more vulnerable to mental health problems, adjustment problems, less academic success and social problems (Rodus et al. 2005). Children with ASD are entering the kindergarten transition process with significant disadvantages in comparison with their typically developing peers. Preventative measures however, can be put into place to address these issues when a child with ASD is transitioning into kindergarten (Stoner, Maureen, House, & Bock, 2007, Rodus et al., 2005).

Schools are also mandated to provide all students with disabilities with a free and appropriate public education in the least restrictive environment and schools must be prepared to



accommodate the diverse needs of students with ASD (IDEIA, 2004). Thus schools should be prepared to use specific transitional practices individually tailored for each student. The No Child Left Behind Act (NCLB; 2001) also requires schools to assess the progress of students yearly, including students with disabilities beginning in kindergarten. Schools must show evidence that kindergarteners have made significant progress throughout the school year. Implementing kindergarten transitional practices for students with ASD may help ensure progress.

The majority of research in the area of the kindergarten transition has been conducted with typically developing students and research in the area of the kindergarten transition for students with ASD is rare. However, there are recommended practices for the transition process for students with ASD and best practices for students with ASD in the classroom that can support children transitioning to kindergarten (Forest et al, 2004). All recommended practices are considered to be proactive transition practices rather than reactive practices. To date, the extent that school personnel involved with the kindergarten transition process are utilizing recommended practices for students with ASD is unknown.

The purpose of this study was to identify how schools were preparing for the transition of students with ASD to kindergarten by implementing recommended kindergarten transition practices. This study surveyed school psychologists, special education teachers, speech and language pathologists/therapists and kindergarten teachers in Livingston, Monroe, Ontario, and Wayne County in New York State, who were involved in the kindergarten transition process and were serving incoming kindergarteners with autism. Survey items included questions that aimed to a) identify which features of the transition process schools utilizing for kindergarteners with

ASD, b) identify the extent to which schools are using best practices for children with ASD during the kindergarten transition, c) identify barriers to implementing recommended practices for kindergarten transition for students with ASD, and d) examine possible predictors of use of kindergarten transition practices for students with ASD. This study provides information about the use of kindergarten transition practices that was previously unknown and identifies the level of need of training for professionals working with students with ASD in the surrounding counties of Rochester, New York. Outcomes of this study can be used to create more positive outcomes for students with ASD transitioning to kindergarten. It can also be used as an example for schools to examine their current transition practices for students with ASD. Also, it provides the field of school psychology with useful information about the types of interventions that are being used within the schools.

## **Chapter II**

### **Literature Review**

A national survey of kindergarten teachers indicated that as many as 48% of children have some difficulty adjusting to the kindergarten routine, ranging from behavioral issues to social problems to issues with following classroom rules (Rimm-Kaufman Pianta, & Cox, 2000). Sixteen percent of children were identified as having a very difficult time, characterized by multiple problems adjusting to the transition (Rimm-Kaufman et al., 2000). Also, teachers reported that as many as one third of kindergarteners have problems following directions and working independently (Rimm-Kaufman et al., 2000). The demands and expectations on a child in kindergarten differ greatly from any other experience in their young life. Transition plans are often used to ease the transition process for kindergarten students. To date, however, the most effective types of transitions are rarely used across the nation (Rimm-Kaufman et al., 2000). Less is known about the transition practices of the special education population; particularly students with Autism Spectrum Disorder (ASD). The purpose of the current study was to identify which specific recommended kindergarten transitional practices were being used for students with ASD and their perceived importance by school-based professionals, the kinds of training that school personnel involved in the transition process have in the area of ASD, the barriers that existed in implementing kindergarten transitional practices for students with ASD, the predictors of their

use, and reported differences in their use across professional subgroups and settings (e.g., rural suburban, etc.).

### **Autism Spectrum Disorder**

The term Autism Spectrum Disorder (ASD) refers to three disorders classified under the category of Pervasive Developmental Disorders in the DSM-IV-TR (APA, 2000). The disorders include Autistic Disorder, Asperger's Disorder, and Pervasive Developmental Disorder Not Otherwise Specified, which include a wide range of symptoms (Stahmer and Aarons, 2009). Autistic Disorder is characterized by qualitative impairments in communication and social functioning and the inclusion of restrictive, repetitive, stereotyped interests or behaviors (APA, 2000). Impairment in the area of social interaction, language used for social communication or symbolic play must be present before the age of three for a diagnosis. Students with Asperger's Disorder do not have impairments in the area of expressive and receptive language and also do not exhibit a cognitive or adaptive delay. However, the literature indicates that they do experience difficulties in the areas of pragmatic language and adaptive behavior, which are significantly below what would be expected given their intelligence. Students with Pervasive Developmental Disorder Not Otherwise Specified do have a severe impairment in social interactions or communication skills or have restricted/stereotypical behaviors but do not meet classification requirements for another pervasive developmental disorder. ASD is associated with significant functional impairment and many individuals with ASD will continue to need support throughout their lifetime.

Within the last two decades the prevalence rate of ASD has spiked drastically. ASD was once believed to have a prevalence rate of 4 in 10,000 children (Stahmer and Aarons, 2009). The

current research suggests the prevalence rate of ASD is 1 and 110 (Center for Disease Control, 2010). The disorder also appears to occur about four times more frequently in males (APA, 2000). This recent increase in prevalence has also been reflected in the special education category of Autism under IDEIA. The United States Department of Education first began tracking this category in 1992. At that time, the classification of autism included 15,580 students. Over the next thirteen years, the number classified increased to 192, 643 in 2005 (US Department of Education, 2007). The reason for this increase in the IDEIA category of Autism is not clear. It could be explained by the increased access to early identification process, broader diagnostic criteria, more precise diagnostic methods, and/or a true increase in prevalence (Stahmer and Aarons, 2009).

Children with ASD also present with relatively high rates of other disorders. Approximately one third of children with ASD also have seizure disorder. (Kabot, Masi, & Segal, 2003). Certain genetic disorders have also been known to be associated with autism spectrum disorder. Two of the most frequently reported genetic disorders are Fragile X syndrome and tuberous sclerosis (Volker & Lopata, 2008). Children with ASD also exhibit a relatively high rate of emotional and behavioral disorders such as Attention Deficit Hyperactivity Disorder, mood disorders, anxiety disorders, self injurious behavior, aggression, and tic disorders (e.g., see Deprey & Ozonoff, 2009).

For many children with ASD behavioral difficulties are often associated with changes in routine (American Psychiatric Association, 2000). Such behaviors may include noncompliance, tantrums, and aggression towards staff or other students. These behaviors may interfere in the student's ability to learn new skills, and pose a significant challenge for classroom teachers. If

their behaviors do become problematic in the classroom, it could result with the student being placed in a more restrictive educational setting (Sterling-Turner, & Jordan, 2007). Thus, students with ASD are at increased risk for a variety of problems related to school adjustment.

The National Institute of Mental Health (1997) suggests that approximately 75-80% of children with autism also have some level of intellectual disability (ID). If child with ASD also has an intellectual disability, it has a stronger impact on the educational process and goals for that particular student. It has been found that students with ID are at a high risk for early school difficulties (McIntyre et al., 2006). According to teacher reports, students with intellectual disabilities have more behavioral difficulties, poorer student social relationships, and fewer self regulation skills (McIntyre et al., 2006). For those students with ASD but without an ID, many often have uneven cognitive profiles, indicating instruction must be carefully developed to each individual's learning style.

Several additional problems may be observed in children with ASD. These include executive dysfunction (e.g. problems with impulse control, planning, organization, and attention), difficulties learning abstract concepts, and attention problems (e.g. over focusing on irrelevant details of a lesson or conversation). Thus, children with ASD often require comprehensive assessments to inform specific academic and behavioral supports to address these difficulties (see Volker & Lopata, 2008).

The core and associated features of ASD put children diagnosed with the disorder at high risk for poor school adjustment after their entrance into kindergarten (McIntyre et al., 2006, Forest et al., 2004). A child with ASD that is involved with early intervention prior to the entrance into kindergarten can make significant gains in their overall level of behavioral and

social functioning. However, the long term effectiveness of these early intervention services relies in part on the level of success of the transition from preschool to kindergarten (Fox et al., 2002). It has also been shown that a child with disabilities that experiences a poor transition is more vulnerable to developing co-occurring mental health problems, greater social difficulties, and adjustment problems (Rodus et al., 2005). If a child with ASD does not experience a positive transition process from their preschool environment to kindergarten, there is a significant chance that the skills they have gained prior to the transition will fail to generalize (Dunlap & Cushing 2002).

Due to the high level of educational needs for students with ASD, it is important to have multidisciplinary team involved in the educational process. The team should consist of a range of educational professionals including administrators, teachers and related service providers. This team should be established prior to the student's entrance to school (Forest et al., 2004). Decisions about placement of the child, and the educational process should be decided by the multidisciplinary team (Forest et al., 2004).

### **Early Identification and Pre-School Programs**

In order for a school to be aware that a student with ASD will be transitioning into kindergarten, the child must first have a diagnosis of ASD prior to the start of school. Earlier identification of ASD has become more common in recent years (Stahmer and Aarons, 2009). The earlier the child is identified as having an ASD, the earlier intervention services can begin. It has been well documented that early intervention (services that begin before the age of five) is related to better outcomes for the child (Hume et al., 2005; Rogers, 1996; Woods & Wetherby, 2003). However, the type and intensity of early intervention programs for ASD a

parent can choose for their child varies greatly. For example, choosing between programs based on the principles of applied behavior analysis and other programs such as Floortime, and TEACCH. Six elements of effective early intervention programs for ASD have been identified and should be present in an early intervention program regardless of the type: earliest possible start to intervention, individualization of services for children and families, systematic and planned teaching, specialized curriculum, intensity of engagement, and family involvement (National Research Council, 2001).

A child with ASD that is receiving pre-school services would be served by the classification of “preschooler with a disability” and all services are provided by the pre-school program. However, when the child starts kindergarten, the service providers will be those who work with school age students. During this time period parent stress levels tend to increase and worry about issues with a change in their child’s service providers begins (McIntyre et al., 2006). Many times, there are differences in philosophies between the child’s current education provider and future provider, resulting in parental worry about the negative impact it could have on their child with ASD (Rodus el al., 2005). To reduce the amount of stress on families during this time period and to ensure the child is receiving the support that is needed during this time; families are encouraged to be involved in the kindergarten transition process. (Fox, Dunlap, & Cushing, 2002).

### **Kindergarten Transition**

Kindergarten transition is a key process in a child’s educational career. For most children it marks the first major transition in their life (Forest, Horner, Lewis-Palmer, & Todd`, 2004). It marks the start of their formal education process, a process that requires mastery of a specific set



of academic skills by a predetermined age. Academic pressures aside, kindergarten also brings a new realm of behavior and instructional expectations that differ from the preschool or home environment (Rimm-Kaufman & Pianta, 2000).

Positive school adjustment is a major goal of kindergarten transition practices. Research indicates that a child's level of communication and social skills directly influence school adjustment (McIntyre et al 2006, Rodus, Hallam, Harbin, McCormick, & Jung 2005, Troup & Malone, 2002). School adjustment refers to perceptions about school, school anxiety, school performance and peer relationships (Troup & Malon, 2002). Poor school adjustment may be indicated by challenges with following directions, lack of academic skills, difficulties working independently or in a group setting, behavior regulation difficulties and underdeveloped social skills (Rimm-Kaufman et al., 2000). During this developmental time period, children are beginning to use language to develop peer relationships (Bronson, 2000). Children with limited verbal communication and underdeveloped social skills are at risk for higher peer rejection, thus adding to the risk of negative school adjustment. Higher intelligence and adaptive functioning are predictors of positive school adjustment (McIntyre et al., 2006). Thus, children with cognitive disabilities and impairment in social-communication skills are highly likely to face challenges adjusting to the kindergarten environment. Kindergarten transition practices can help improve social competencies and school adjustment (LoCasale-Crouch & Mashburn, 2009).

For many years it was thought that the kindergarten transition process should focus on the school readiness of the child. School readiness refers to the skills and behaviors the child possesses upon their entrance into the formal schooling environment to meet the educational demands and expectations of kindergarten (Early et al., 2001). The traditional view of school

readiness has been criticized for its focus on the child's skills alone rather than also focusing on the school's level of preparation to support children of different skill levels (Ramey & Ramey, 1999). The nation's educational programs are now in the process of trying to shift away from the old notion of how ready the child is to enter into kindergarten to the new notion of how prepared the school is for their incoming students (National Education Goals Panel, 1998). This new notion is referred to as "ready schools."

Ready schools have three goals for the kindergarten transition process; (1) *Reaching out*: linking families, preschool settings and communities with the school, in order to establish a relationship and have open two-way communication about how to create effective transition practices, (2) *Reaching backward in time*: making positive connections by fostering relationships with the transitioning family before the start of school in the fall, and (3) *Reaching with appropriate intensity*: developing a range of practices that vary in intensity to ensure the needs of all children entering the school system are met (Pianta et al, 1999). Teachers and administrators are responsible for deciding how and which methods are used to meet these goals. Ready schools use practices that focus on effectively helping families and students transition into kindergarten with as few difficulties as possible (Early et al., 2001). Currently, these goals are suggested guidelines to the transition process and, therefore, not mandated by state education departments. The notion of ready schools marks a step that schools are beginning to recognize the need for proactively identifying and developing individualized supports and services for students; including those with ASD.

Reactive methods are methods that have been a focus of the kindergarten transition process prior to the shift into the ready school movement. Reactive methods are transition

practices that are put into place after the start of school in rather than before the start of school. Many times, reactive methods are in response to difficulties the child is facing. Examples of reactive methods are individual approaches such as parent meetings or phone calls home from the teacher. While some reactive methods are in place to promote a positive relationship between the school and the child (e.g. open houses after the start of school, mandatory parent teacher conferences for all students), many are in response to problems the child is facing in the classroom (Laverick, 2008).

When schools begin striving to become ready schools, they are implementing proactive methods. Proactive methods are transition methods that are implemented before the official start of school. These practices and policies are designed to anticipate issues that may arise rather than waiting to react to problems once they occur. The use of proactive methods marks an important shift in the kindergarten transition process. When using proactive methods for kindergarten transition, the developmental characteristics of the child, the goal of establishing relationships with the family and recognizing factors that influence adjustment, are all taken into consideration. The use of proactive methods has also been found to increase academic standing, social acceptance and reduce school anxiety and school avoidance; all of which are problems that occur frequently with kindergarten classes and are responsible for many negative transition experiences. (Laverick, 2008).

Family involvement is also an important piece of the transition process. It has been well documented that parent involvement positively affects children's future academic outcomes (McIntyre et al 2007, Schulting et al 2005, Hill et al., 2004, Kohl et al., 2000). Therefore, kindergarten transition policies in schools should strive to foster positive parent involvement in

school activities at an early age to improve future outcomes (Schulting et al., 2005). The kindergarten transition process can link the family to the school environment by providing open communication and a trusting relationship from the start of the child's educational career. By seeking to build relationships with the families before entrance to the formal schooling process, schools are providing a proactive, positive first impression that can influence the child's future attitudes towards school (Laverick, 2008). Transition practices that involve the family provide a strong basis for the future educational relationship between the child and the school (Laverick, 2008).

A recent survey indicated that parents want to be more involved in the transition to kindergarten process (McIntyre et al., 2007). At this time, parents believed they are not being given enough opportunities to be involved in the process of kindergarten transition, thus creating a disconnect between home and school. Parents also have indicated that they are unaware of the behavioral and academic expectations of kindergarten. They believed being more informed of the transition process as a whole would better prepare their children. Parents' perspectives should be taken into consideration during the development of transition procedures to foster a strong connection between home and school (McIntyre et al., 2007).

### **Transition Practices**

There are a number of different types of kindergarten transition practices that are utilized in the educational system with the general education population. Although research supports the need for effective kindergarten transition practices for the general education population as a whole (McIntyre et al. 2007, Schulting & Dodge, 2005, Early et al., 2001, Pianta et al., 1999, Nelson, 2004), there is little agreement in how the process should be executed. At this time,

studies have linked best practices in kindergarten transition to positive outcomes for the student (Education Commission of the States, 2000). However, the extent to which schools utilize the kindergarten transition practices that have the strongest empirical support (individualized, proactive transition practices) varies greatly from school to school (Pianta et al., 1999).

Transition practices can be individual or group practices. Examples of individual practices would include a visit to the child's home by school personnel, phone call or meeting at the school between school personnel and the parents, a phone call to the child from the teacher, a visit to preschool setting or daycare site by school personnel, review of child's written records, informal contact with the preschool teachers or formal contact to coordinate curriculum with the preschool (Early et al., 2001). Group practices include letters or flyers home from the school, a letter to students written by the teacher, an open house for students and/or parents, or participation in kindergarten screening process (Early et al., 2001). Best practices indicate that individual, rather than group, practices result in the best academic, social and behavioral outcomes (Nelson, 2004).

The timing in which these practices are implemented is also critical to the kindergarten transition process. As previously stated, a goal for kindergarten transition is to make connections with the transitioning family prior to the start of school thus using proactive strategies. Research also supports that transition practices are more effective when implemented proactively (Pianta et al., 1999). However, one study indicated that the most commonly used types of kindergarten transition practices are reactive methods. Ninety-five percent of teachers contact the parents of kindergarteners individually after school begins and 88% of teachers send a group letter home after school begins (Early et al., 2000). The majority of teachers do offer an open house for

kindergarteners and their parents, however only 62% do prior to the start of school, while 82% offer one once school has started (Early et al., 2001). Only 5-17% of teachers report to having contact with parents, child or preschool, through a phone call or meeting prior to the start of school indicating that individualized contact before the start of kindergarten is rare for all students. (Early et al., 2001).

Nelson (2004) found that the most commonly used transition practices are also low intensity, despite the need for a range of intensive practices to be utilized in the transition process. Low intensity practices are those in which do not require individualized contact. The most commonly used transition practice across the nation is sending information home through the mail which is considered to be a low intensity practice. A home visit before the start of kindergarten, is considered to be a high intensity practice, and has been found to be the least used practice (Nelson, 2004). High intensity practices are practices in which individualized contact is initiated by the school or teacher with students and/or their families. Research shows that the majority of preschool teachers report visiting their students' kindergarten classrooms with them. However, the kindergarten teachers report having little interaction with this transition activity, thus, highlighting the need for more communication between preschools and kindergarten teachers during the transition process (La Paro, 2003). Overall, at this time, kindergarten transitions practices in the nation's school system are considered to be far from optimal (Early et al., 2001).

### **Recommended Practices for ASD**

A number of elements that are perceived as high importance to the kindergarten transition process for children with ASD and a time period for implementation have been identified in the

literature. These practices were identified as the most frequently empirically supported practices throughout the literature (Forest et al., 2004) and are presented in Table 1.

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Insert Table 1 Here

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Research has developed a suggested time frame for each of the best practices that have been identified. Classroom visits to the future placement of the transitioning student with ASD by multiple members of the transition team at different time periods are an important part of the transition process (Forest et al., 2004).

### **General Considerations**

Research strongly states that students with ASD are considered to be at high-risk for school problems during kindergarten transition due to their social, cognitive, behavioral and learning problems. Little research to date exists to identify what specific elements are most effective and should be in place for students with ASD transitioning to kindergarten. However, some general considerations have been identified. For example, parent involvement has been identified as a key asset to successful kindergarten transition (Stoner, Maureen, House, & Bock, 2007, Rodus et al., 2005). Communication between the school and parents allows for the coordination and consistency of the transition process across settings (Stoner et al., 2007).

Parents are the common link between the two different sites and can provide information to better understand their child, thus, creating a more child centered approach to transition (Stoner et al 2007). Parent perspectives of the transition process also offer a unique way to assess the effectiveness of transition practices: the parent perspective offers insight into the child's current functioning level at home and at school in comparison to the previous educational placement.

Parents of students with ASD have indicated that the most important characteristic of the kindergarten transition process is that it is child centered (Stoner et al., 2007). This characteristic is also consistent with the mandates of IDEIA. Transition practices that are child centered focus on the strengths and weakness of the child with ASD and interventions are then implemented based on the needs of the child.

The school's preparation for supporting a child with ASD was also indicated as an important factor to the transition process (Stoner et al., 2007). When schools showed understanding that the child has difficulties in the area of transition in general and were prepared to handle this situation before problems become apparent, parents believed the transition process to be more effective. This involved proactive planning to provide needed academic and behavioral supports (Stoner et al., 2007).

A written plan should be developed by a team for a child with ASD that is transitioning into kindergarten. Members of this team should include the child's preschool or agency providing intervention services, members of the kindergarten educational team and the child's family members. The written plan should outline the school's plan to systematically orient the child to the receiving site and outline the methods used to provide support for the child once in the building. The plan should also indicate the roles and expectations of all participants, involve



a timeline of the transition process and a description of the least restrictive environment for the child. The plan should also identify a person that is responsible for the coordination of the transition procedure (Fox et al., 2002)

A student with ASD will often display challenging behaviors in the classroom, particularly during a transition time period. Preparing the physical environment is a key aspect of the transition process. Classrooms that are designed to educate students with ASD should have certain characteristics. A set of recommended interventions that should be in place when educating a student with ASD has emerged in the literature. Positive behavioral supports, informed by a functional behavior assessment should be conducted to establish the function of problem behaviors and to develop a teaching plan for replacement behaviors (Carr et al., 2002), including functional communication skills (NCR, 2001). Students with ASD need to be provided with opportunities that increase their use of communication and social skills throughout the day.

Students with ASD should be engaged in age-appropriate learning that is useful in a variety of settings. A naturalistic teaching approach incorporates child choice, which provides intrinsic reinforcers and opportunities for generalization (National Research Council, 2001). Social instruction should be delivered throughout the students' day and incorporated with play skills. Peer interactions should also be a key component of the students' educational plan. Students with ASD should be integrated with typically developing peers to the greatest extent possible. All of these modifications are a critical piece of the educational planning for children with ASD of all age ranges and levels of disability (Rodgers & Vismara, 2008).

### **Barriers to Kindergarten Transition**

Optimal transition practices are difficult to implement in schools for the general education students. Many teachers consider these practices to be time consuming and invasive (Early et al., 2000). Transition practices that occur prior to the start of school require more preparation, possible interference with the teachers' current students (taking away time teacher planning time), or occur during the school's summer break (Early et al., 2000). Also, the teacher needs advance notice of things such as their class list, students' phone numbers and addresses. Many times, implementing optimal transition practices involves the need for extra pay for the teacher or the teacher has to be willing to donate his/her time (La Paro, Kraft-Sayre, & Pianta, 2003). Practices that allow the teacher to combine students and families into group settings require less time and preparation therefore may be more appealing to teachers (Early et al., 2000). Coordination with preschools involves even more barriers. They are also in need of the knowledge of the preschool setting, the willingness of the preschool to participate in the process, and coordination of schedules (Early et al., 2000).

The previously mentioned barriers to kindergarten transition processes also have a direct influence on the time period in which transition practices are implemented. Late generation of class lists is cited as the most common barriers teachers face when deciding which types of kindergarten transition practices to utilize (Pianta et al., 2000). Late class list generation makes it challenging for there to be personal contact between the teacher and the future students. If a teacher is unaware of whom the students in their classroom are, contacting families or students would be impossible for teachers prior to entrance on the first day of school. Therefore, one of the most difficult barriers for teachers and kindergarten transition practices stems from a systematic barrier within the school district (Early et al., 2002).

Class size has also been cited as a common barrier that restricts the use of more individualized transition practices (Early et al., 2000). Classes with more students typically require more time and planning in order to manage the classroom and make it function smoothly. Therefore, this leaves less time for implementing transition practices before the start of school.

Another common barrier to implementing effective kindergarten transition practices was lack of teacher training on appropriate methods to utilize for kindergarten transition. Teachers that cited they had prior training in kindergarten transition, reported using more transition practices than teachers that reported having no training in the area of kindergarten transition (Early et al., 2000). Teachers that reported having training in this area began the transition period prior to the start of school and made efforts to involve the students' preschool setting. If applicable, they used individualized practices along with the coordination of group events and preschool goals for the student (Early et al., 2000). However, few teachers reported having specific training in the area of kindergarten transitions. (Early et al., 2000).

Parents of students with ASD have also identified what they believe to be barriers in the kindergarten transition process. Parents have indicated the most significant barrier to the transition process is the lack of preparation and understanding of ASD on the part of the educational professionals (Stoner et al., 2007). Parents believed educational professionals' lack of understanding about ASD leads to poor identification and implementation of best transition practices for students with ASD.

Philosophical differences between the incoming students' previous educational program and future kindergarten site can also act as a barrier. Many times, students with ASD are transitioning into kindergarten from extremely structured sites that provide specific services

following a specific philosophy of how ASD should be treated, such as Applied Behavior Analysis, Floortime, or TEACCH. When it comes time for the student to transition to kindergarten, the majority of the time, they are entering programs that provide services based on a much different philosophy (Rodus et al. 2005).

### **Current Study**

Although the literature is currently expanding in the area of kindergarten transition in regards to students with ASD, to date there exists a need to explore how schools are preparing for these incoming students. The purpose of the current study was to examine how schools are preparing for the kindergarten transition process for students with ASD. Recommended practices for kindergarten transition for students with ASD have been identified; however, the extent which professionals are using these recommended practices is unknown. This study surveyed school psychologists, speech language therapists, special education teachers and kindergarten teachers to assess: (a) which transition practices were being used, (b) barriers to implementing best practices, (c) the training these personnel reported having in ASD, and (d) factors that predict the use of best practices. The predictors included number of years spent in current position, years of experience working with students with ASD, perceptions of training in the area of ASD, and perceived need for more training in the area of ASD. These predictors were selected because they reflect field experience and training variables, and it was reasonable to believe that they would relate to the use of transition practices for students with ASD. In addition, the literature indicated that parents believed lack of training in ASD was a significant barrier to the use of best transition practices. Differences among these professional groups, as well as among those working in rural, urban, and suburban settings with respect to predictors of the use of

recommended practices and mean differences in the reported frequency of the use of best practices were also examined. These professionals were selected because they are the professionals that work closely with kindergarten students with ASD.

### **Research Questions**

1. To what extent were schools using recommended practices in kindergarten transition for students with ASD and how important did they believe the practices to be?
2. What barriers to implementing recommended practices for kindergarten transition for students with ASD were most frequently reported by school professionals?
3. What kind of training did school personnel involved in the kindergarten transition process have in the area of ASD?
4. To what extent did years in current position, perceptions of training, number of years working with students with ASD, and perceived need for additional training in the area of ASD predict use of recommended transition practices for students with ASD?
5. Are there any differences between professional subgroups and district settings with respect to the extent to which best practices are used?

## **Chapter III**

### **Method**

#### **Participants**

The participants of the current study were school psychologists, kindergarten teachers, kindergarten special education teachers, and speech and language therapists/pathologists in Livingston, Monroe, Ontario and Wayne county of New York whose e-mail addresses were publically available on their school's websites. Participants were currently serving kindergartners entering the school district with an autism spectrum disorder. Participants who did not meet these criteria were excluded from the current study. A total of 702 e-mails were sent to participants and 119 surveys were returned, yielding a return rate of 17%; however, of the 119 surveys that were returned, 53 were not used due to substantial missing data. A final sample size of 66 was used for the statistical analyses.

#### **Instrumentation**

The survey that was designed for the current study took approximately fifteen to twenty minutes to complete (see Appendix A). It was developed to investigate the transition practices schools were currently using for students with ASD in their school district based on the

recommended transition practices identified by Forest et al (2004). Participants were then asked to respond to items related to transition practices:

- Frequency of transition practices that schools were currently utilizing;
- Barriers to using evidence based transition practices for students with ASD entering kindergarten;
- Perceived importance of present supports provided in their district;
- Time frame of implementation of the transition practices.

Participants were first asked to provide certain demographic information. The demographic information included a) current position, b) the number of years in current position, c) race, d) ethnicity, e) gender, f) years of experience working with students with autism spectrum disorders, g) district setting, h) grades served, i) and amount of training in the area of autism spectrum disorders.

### **Data Collection**

Once approval of the university's Institutional Review Board was received, the survey and cover letter (see Appendix B) were e-mailed to potential participants. The cover letter explained that the current study was examining the transition practices used for kindergarten students with ASD for the researcher's thesis project. It also described the method that was used to obtain their e-mail address, why they were targeted to become a participant and approximately how long the survey would take to complete. Participants were also encouraged in the cover letter to contact the researcher with questions pertaining to the current study. The cover letter

stated that completing and returning the electronic survey indicated consent to participate in this study. All questions from participants that were e-mailed to the investigator were answered within one day.

In the cover letter, participants were asked to click a link that directed them to the survey. Participants completed and submitted the survey to the researcher using Survey Monkey ©. Participants were not asked to provide their names, e-mail addresses, phone numbers, or any other personally identifiable information. Data collected from the survey were stored on the researcher's account on the Survey Monkey © website. The enhanced security feature for the website was used which secured a connection between the participant and the server using an encrypted URL link. The feature also assured the security of the researcher's account using Verisign, which was designed to protect transmission of private documents through the internet. The data were only made available to the researcher and the researcher's advisor. Survey Monkey's reminder feature was also utilized. This feature re-sent the initial e-mail to those participants who had not completed the survey after one week's time. The researcher was unaware of which participants received a reminder e-mail. Raw data were then imported into a separate data file for statistical analyses and stored on a flash drive. Only the researcher and the researcher's advisor had access to the flash drive.

## **Data Analysis**

**Descriptive statistics.** Once all data was collected, the raw data was entered into IBM SPSS version 13.0 (2006) for analysis. Overall descriptive statistics were collected for all survey questions. Means and standard deviations were obtained for continuous variables and percentages were obtained for nominal variables.



**Scale reliability.** Reliability was examined to indicate how precise the Transition Practices Scale scores were. The overall score reflected the sum of all item scores. Coefficient alpha, mean inter-item correlations and corrected item- to-total correlations were obtained.

**Regression analysis.** Regression analyses were conducted to determine which variables, if any, predicted the overall use of transition practices for students with ASD. Use of transition practices were indicated by each participant's Transition Practices Score. The four assumptions of independence, normality, homoscedasticity, and linearity were assessed. Normality was assessed by inspection of the skewness and kurtosis indices as well as reviewing the histogram and normal q-q plots of the standardized residual. Homoscedasticity was assessed for by reviewing plots of the standardized residual and the standardized predicted scores. Linearity was assessed for by using the Loess fit line in scatter plots of the criterion and predictor variables. Outliers and influential data points were assessed for by inspecting Cook's D, values of the standardized residuals, Leverage values, and the standardized difference in beta. Hierarchical regressions were conducted to see if the strength of the relationship between the predictors and criterion were the same across different professional groups and locations and to see if the intercepts were the same across those groups. The variables were entered into the regression in three different steps. The first block included the continuous predictors: years of experience working with students with ASD, years in current position, perception of training with ASD and perceived need for additional training in ASD. The second block included the categorical variables: either the participants' position or participants' district setting. The final block added the interactions between continuous and categorical predictors. A significant interaction would require separate regression analysis for each group. The significance level of interactions was set

at  $\alpha=.10$  to guard against a Type II error. For each regression conducted,  $R^2$ ,  $R^2$ -change,  $F$ ,  $F$ -change, and squared semi-partial correlation of all predictors were calculated.

**Significance tests.** ANOVA and t-tests were conducted to determine if there any significant differences between the professional groups or district settings in the use of kindergarten transition practices for students with ASD. The transition practices total score was the dependent variable. ANOVA was used to determine if there were significant differences between the School Psychologists, kindergarten teachers and special education teachers. Because no respondents reported working in an urban setting, a t-test was conducted to see if there were any significant differences between the rural and suburban setting when using kindergarten transition practices for students with ASD. The assumption of normality was assessed through inspection of the skewness and kurtosis indices, histograms, and normal q-q plots. Homogeneity of variance was assessed by examining the variances for each group; the assumption was considered and met if the variance ratio was within 4:1.

## Chapter IV

### Results

#### Sample Characteristics

Descriptive statistics were obtained for the sample ( $N=66$ ) and are presented in Table 2.

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Insert Table 2 Here

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Professionals working in four disciplines in the educational field were surveyed, Kindergarten teachers ( $n= 22$ ), Speech and Language Pathologists ( $n=5$ ), School Psychologists ( $n=24$ ), and Special Education teachers ( $n=15$ ). The vast majority of participants were females and all participants identified themselves as Caucasian and non-Hispanic. Most worked in suburban settings, and none worked in urban settings. Very few participants reported that they had significant amounts of training with students with autism. Participants were asked to identify any training they had received in the area of ASD. The most frequently reported sources of training were Workshop in ASD, In-service on ASD, and college courses with field experience. The least frequently reported training options were certification in ASD, and certification in ASD with

field experience. No participants reported that they believed their training programs left them to be very poorly trained in the area of ASD.

### **Use and Perceived Importance of Transition Practices**

Participants were asked to provide information about their use of transition to kindergarten practices for students with ASD and their perceived importance of these recommended transition practices. Results can be seen in Table 3 and Table 4.

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Insert Table 3 and Table 4 here

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Kindergarten placement identified, related services identified, goals and education plan identified, and specific classroom selected were reported to be used by at least 75% of participants. Teacher observing child in preschool setting, giving evaluation of transition to administration and preschool sharing information about student were reported to be used by less than 25% of participants. Child visits to the next classroom setting, identification of the instructional curriculum, the student's daily schedule and behavioral supports, and planning the physical environment were all reported to be done regularly by only about 50% of the sample. Many important transition practices fall between the reported use of 25-75% of participants, thus a substantial number of recommended kindergarten transition practices are not being used by a large portion of the sample. The following transition practices were identified by at least 90% of the participants as highly important: kindergarten placement identified, related services identified, contact person identified, goals and education plan identified and specific

classroom identified. Most recommended practices were seen as highly important. The results indicated that there was a large discrepancy between actual use of all transition practices for students with ASD and perceived importance of those practices.

### **Barriers**

Table 5 shows results pertaining to barriers to implementing kindergarten transition

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Insert Table 5 here

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practices for students with ASD. The most frequently reported barriers were “occurring during summer break/ school personnel not available”, “time consuming” and “philosophical differences between previous educational program and transitioning program”. Also, 29.6% of participants reported that their lack of training in the area of ASD was a barrier to implementing these practices

### **Regression Analyses**

A reliability analysis was calculated for the Kindergarten Transition Scale because the total score (sum of item raw scores) was used as the criterion for the regression analyses, and for the significance tests described below. Table 6 presents reliability data.

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Insert Table 6 here

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The analysis was run on the original 21 items; however, analyses indicated that internal consistency would increase significantly if the item *written transition plan* was deleted. Upon further review of this survey question it was found this question yielded very few participant responses. Reliability was run again with the deletion of this item. The current survey yielded a mean inter-item correlation of .399, median item-to-total correlation of .600, and a coefficient alpha of .927. These results indicated that the Kindergarten Transition Scale had very good internal consistency and that the total score was appropriate to use in the regression analyses and significance tests.

Hierarchical multiple regression analyses were then conducted to identify predictors of best transition practices. For all analyses, none of the assumptions were violated and there were no problems with outliers or influential data points. One set of analyses included setting (rural and suburban) as a categorical predictor, and a second set included professional discipline as a categorical predictor. All analyses included perception of training, years in current position, additional training, and years experience working with ASD as continuous predictors.

Table 7 contains the results of the hierarchical regression analyses with setting as the

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Insert Table 7 here

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categorical predictor. The results show that the interaction between the continuous and the categorical predictors was found to be significant at  $\alpha=.10$  (see Step 3). This indicated that the

strength of the relationship between the continuous predictors and the criterion, frequency of transition practices, differed among rural and suburban participants.

Regression analyses were then conducted separately for participants in rural ( $N= 22$ ) and suburban ( $N=44$ ) settings. Table 8 shows results for the rural participants.

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Insert Table 8 Here

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$R^2$  was not found to be significant. Tests of individual predictors were not significant ( $\alpha <.05$ ). However, perceptions of training uniquely accounted for 15.6% of the variance in the criterion, which is a fairly large percentage. This suggested that the sample size was too small, and the tests lacked statistical power.

Table 9 shows  $R^2$  was significant.

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Insert Table 9 Here

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The regression analysis for the suburban participants found a significant inverse relationship between the Transition Practices Score and the years of experience professionals had with students with ASD. This predictor uniquely accounted for 16.2% of the variance in the criterion.

Table 10 shows the results of hierarchical regressions run with position as categorical

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Insert Table 10

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predictors ( $N= 61$ ). Speech and Language Pathologists were removed from these analyses due to small sample size. Once again the interaction was significant ( $\alpha <.10$ ), so separate regressions were then run by position.

The regression results for School Psychologists ( $N=24$ ) are shown in table 11.

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Inset Table 11 Here

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$R^2$  was not found to be significant. However, years of experience with working with students with ASD uniquely accounted for 16.9% of the variance in transition practices indicating an inverse relationship. Again, there appeared to be insufficient power for these analyses.

A regression for kindergarten teachers was also conducted ( $N=22$ ), results are found in Table 12.

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Inset Table 12 Here

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The overall  $R^2$  was significant. Years in current position (12.3%) and perceptions of training in the area of ASD (14% of the variance uniquely accounted for) were both found to be significant. The more well trained kindergarten teachers believed themselves to be in the area of ASD the more transition practices they were found to use. However, the more years kindergarten teachers were in their current position the fewer transition practices were utilized with students with ASD. Additional training accounted for 7.6% and years of experience accounted for 5.6% of the variance, however, were not found to be statistically significant, likely due to issues with statistical power.

The final regression used special education teachers ( $N= 15$ ) and results are shown in Table 13.

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Insert Table 13 Here

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$R^2$  was not statistically significant. Had the current study yielded more statistical power it is believed years in current position was also found to be a significant predictor of using kindergarten transition practices with students with ASD. For reason that it uniquely accounted for 38.6% of the variance. This would have indicated the more years the special education teachers reported being in their current position of working with kindergarten students with ASD, the fewer transition practices were reported to be utilized.

### **Significance Tests**

A *t*-test compared the rural and suburban groups on their Kindergarten Transition Practices score. All assumptions were met. The results from the *t*-test ( $t=.085, p=0.772,$ ) indicated that the mean difference was not statistically significant between the suburban group ( $M=65.87, SD=18.43$ ) and the rural group ( $M=65.82, SD=16.34$ ).

A one way ANOVA was also run between positions. All assumptions were met. The results from the one way ANOVA ( $F_{2,59}=.21, p=.810$ ) indicated there were no statistically significant mean differences for the transition practices scale score among kindergarten teachers ( $M=64.05, SD=13.89$ ) School Psychologists ( $M=67.46, SD=16.81$ ) and special education teachers ( $M=65.543, SD=23.65$ ). Speech pathologists were not included in these analyses due to small sample size.

## **Chapter V**

### **Discussion`**

#### **Overview**

This study addressed several research questions related to kindergarten transition for students with ASD. A survey of several professional groups directly involved with the kindergarten transition process for students with ASD investigated which recommended transition practices were used for individuals with ASD, the perceived importance of the transition practices, barriers to implementing transition practices, the kinds of training experiences in ASD reported by participants, predictors of the use of best practices, and differences between professional subgroups and settings with respect to the use of best practices. Years in current placement, number of years working with students with ASD, perception of training, and perceived need for additional training were used to predict the use of the kindergarten transition practices for students with ASD. A reliable scale was developed and used to help address these questions.

#### **Use, Perceived Importance, and Barriers to Implementing Best Practices**

All recommended transition practices were reported to be used in area of Western New York to some extent. The most frequently used practices reported were the identification of the kindergarten placement and related services. At least 75 percent of the sample also reported the

frequent use of identifying the specific kindergarten classroom as well as the student's goals and education plan. Child visits to the next classroom setting, identification of the instructional curriculum, the student's daily schedule and behavioral supports, and planning the physical environment were all reported to be done regularly by only about 50% of the sample. However, all of these recommended practices are directly relevant to student learning and overall classroom adjustment. Interestingly, most practices were perceived as "highly important" by practitioners, but there was a large discrepancy between ratings of importance and the reported use of these practices. This indicates that professionals are aware of the importance and need for these transition practices to be used for students with ASD, however, they are not implementing them routinely. This further suggests that there are a significant number of students with ASD that do not have a comprehensive transition plan in place when transitioning into their kindergarten placement.

There were a number of barriers that were reported by participants as reasons for not implementing of transition practices for students with ASD. The three most frequently reported barriers to implementing transition practices were that "practices were considered to be time consuming to implement", "philosophical differences between previous educational program and transitioning program", and "occurs during the summer break/ personnel not available." "Practices were considered to be time consuming to implement" and "occurs during the summer break/ personnel not available" were also indicated to be large barriers to the use of kindergarten transition practices for general education students (Early et al. 2000). These findings suggest the presence of systemic barriers within school systems that need to be addressed. These areas highlight the possible need for administrators to stress the importance of these practices, and to problem-solve for such barriers, so that the implementation of best practices are implemented

more regularly by school professionals. Professionals need to be aware that they have the support of their administration in order to implement these practices consistently and with good integrity.

Two other barriers deserve mention. First, 29.6% of participants reported that their lack of training in the area of ASD was a barrier to implementing these practices. This is consistent with previous research that indicated that parents of students with ASD believed that lack of training is a significant reason transition practices are not used (Stoner et al., 2007). This also is an issue that needs to be addressed by administration. If professionals that are directly connected in working with students with ASD are not properly trained, it has a direct impact on the student. Interestingly, 33.3% of participants identified lack of information about the students as being a common barrier to implementing transition practices. Consistent with this report was the finding that “meeting with the preschool teacher to share information about the transitioning student” was one of the less frequently reported practices and was considered of lower importance to participants than the majority of the other transition practices; however, the reason for this is not clear.

### **Training in ASD**

Participants were asked to identify any training they had received in the area of ASD. The most frequently reported sources of training were Workshop in ASD, In-service on ASD, and college courses with field experience. The least frequently reported training options were certification in ASD, and certification in ASD plus field experience. Thus, as a whole, this sample was not well-trained in ASD. No participants reported that they believed their training programs left them to be very poorly trained in the area of ASD. In fact, the majority of participants believed they were adequately trained to work with students with ASD but still

wanted more training in the area. Although the specific reasons are not clear, there may be a large difference between a belief that one is adequately prepared to work with students with ASD and one that is actually highly competent or skilled to work with students with ASD. Another possibility for this could be that participants want to keep their training in ASD current with newer practices and findings, and perhaps to satisfy state, district, and/or professional mandates for continuing education.

### **Predictors of the Use of Recommended Transition Practices**

Regression analyses found that predictors of the frequency of use of transition practices differed across professions and settings, although low statistical power was observed for these analyses. Years experience working with students with ASD was found to be a significant predictor for the suburban professionals. Interestingly, these professionals reported that as their number of years working with students with ASD increased the number of transition practices used decreased. The reason for this inverse relationship is unknown. It is possible that the more years a professional has worked with students with ASD the further removed they are from comprehensive professional training, resulting in less awareness of current best practices. In addition, workshops and other in-service trainings may not focus on ASD kindergarten transition practices. There were no significant predictors found within the rural population. However, had the regression had more statistical power, perception of training in ASD may have proven to be statistically significant as it uniquely accounted for 15.6% of the variance in the transition practices score. This may have indicated that in the rural setting the more favorable perceptions of training the more kindergarten transition practices professionals used. This provides indirect support for the idea that when professionals are well versed in the needs of students with ASD

through their training the better supported the student will be. However, favorable perceptions of one's training may not translate into competent practice.

Regression results also differed across professional subgroups. No significant predictors were identified for school psychologists. However, much like the rural population, it is believed that if the study had more statistical power a statistically significant inverse relationship between the use of kindergarten transition practices and experience working with students with ASD may have been found. Two significant predictors were found for kindergarten teachers. It was found that the more years spent in the current position the less kindergarten transition practices were used for students with ASD. There are many possible reasons for this inverse relationship. One may be the more time a teacher spends in their current position the more at risk the teacher becomes of "burning out" thus resulting in less time spent in intensive practices for students. However, this is speculation and more research is needed to investigate this possibility. Another significant finding with kindergarten teachers was that more favorable perceptions of training were related to more transition practices they reported using. This suggests that if kindergarten teachers have sufficient training in the area of ASD, the student with ASD is more likely to receive a comprehensive kindergarten transition plan. Two other predictors, perceived need for additional training and years of experience working with ASD, also uniquely accounted for 5.6% and 7.6% of the variances in the Transition Practices Score; however, these percentages were not found to be significant due statistical power. Number of years spent in current placement would have been found to be significant inverse relationship for Special Education teachers had the study had more statistical power. The same possibilities may also be applicable for special education teachers as kindergarten teachers for reasons they reported using fewer transition practices as the amount of years in their current position increase.

Significance tests were also conducted between both setting and positions of participants. However, neither setting found significant results between the groups. It is possible that no significant differences were found between the groups because the sample size of the current study was too small.

### **Limitations**

The most significant limitation to the current study is sample size which resulted in low statistical power. The sample size may have been low due to the survey being sent to professionals at the end of the school year. Another limitation to this study was that no participants that identified themselves as serving in a district considered urban. Thus, results may not apply to professionals working in urban settings. In addition, participants in this study were selected only from Western New York. All participants reported that they were Caucasian and non-Hispanic, and results may not generalize to professionals from other racial-ethnic subgroups. Another limitation to this study is that no direct observations were used to confirm the reported use of practices or the fidelity of use of those practices. Also, this was a self-selected sample with in turn may limit generalization of the study's results to other populations (e.g., to those who do not volunteer for research projects).

### **Directions for Future Research and Practice**

For future research in the area of kindergarten transition practices for students with ASD it would be beneficial to conduct a study on a larger representative sample. A study including direct observation of transition practices being used with kindergarteners with ASD would be able to give more accurate data on which practices are and are not being utilized with fidelity.



Longitudinal studies are also needed to provide direct data on the relationship between the actual use of practices and student outcome. There is also the need to identify the reason for the discrepancy between the actual use of transition practices and perceived importance. Also, there is a large need to identify a reason why professionals involved in the kindergarten transition process are not routinely using critical recommended practices that directly affect student support and learning in the classroom. Also, further research is needed to better understand the inverse relationship found between the number of kindergarten transition practices used for students with ASD and years of experience with ASD as well as years in current position.

More comprehensive training programs need to be made available for teachers, services providers, and administrations in the area of transition to kindergarten for students with ASD. Research supports that for the general population the more kindergarten teachers are trained in transition practices the more practices they report using (Early et al., 2000). The current study supported this finding kindergarten teachers that reported more favorable perceptions of their training tended to use more transition practices. Similar to findings within the general education population, (Early et al., 2001) the use of kindergarten transition practices for students with ASD are fall less than optimal. Not using kindergarten transition practices for either population when there are direct links to positive student outcome appears to be a disservice to the student population. Training programs in the area of kindergarten transition can help correct this disservice and increase student potential. Training programs in this area may need to be differentiated for the unique needs of professionals working in different locations (e.g., urban, rural, etc) and for different professional subgroups. Training needs to be focused on skills that are needed to actually implement recommended transition practices with good fidelity. Lecture-

based trainings would likely be insufficient to fill this need. Rather, training delivered through direct instruction is needed.

Also, school districts need to problem solve for barriers that have been identified as reasons for not implementing recommended transitions practices for students with ASD. This is another area that could possibly be addressed through administrator training and possibly through ongoing consultation with experts in educational programming for students with ASD. It could also be addressed through consultations with experts in the area of ASD. All of this work is needed to improve the quality of kindergarten transitions for students with ASD, which can increase the likelihood of better student outcomes, and can also help schools satisfy federal and state education mandates.

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Table 1.

*Transition practices identified as highly important for students with ASD*

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Time of implementation	Transition Practice
12 months prior to transition	Placement is identified Related services are indentified Readiness skills for placement are indentified Initial transition timeline is created roles and responsibilities of transition team members are identified Individual is identified as transition contact person for the parents and teachers Kindergarten classroom visits arranged to multiple placement options
6-12 months Prior to kindergarten placement	Parents visit multiple placement options at least once Specific placement is selected Transition plan is formalized Transition plan includes steps to complete transition process Preschool teacher visits kindergarten classroom Receiving teacher visits preschool classroom to observe

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	child
	Preschool and kindergarten teachers meet to share information
	Child visits kindergarten classroom
6 months prior to kindergarten placement	Curriculum is identified
	Materials are identified and created
	Daily schedule is created
	Professional staff identified
	Physical environment is ready to support child
3-12 months after kindergarten placement	Parents and teacher evaluate transition process for the student
	Evaluation is given to administrator in charge of transition planning

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Note. (Forest et al., 2004)

Table 2: *Participant Descriptives*

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Descriptive	%
<i>Male</i>	<i>13.6</i>
<i>Female</i>	<i>86.4</i>
<i>Race: Percent Caucasian</i>	<i>100.0</i>
<i>Ethnicity: Percent Non-Hispanic</i>	<i>100.0</i>
<i>Position</i>	
<i>Kindergarten Teacher</i>	<i>33.3</i>
<i>Speech Language Therapist</i>	<i>07.6</i>
<i>Special Education Teacher</i>	<i>22.7</i>
<i>School Psychologist</i>	<i>36.4</i>
<i>Setting</i>	
<i>Rural</i>	<i>36.6</i>
<i>Suburban</i>	<i>63.4</i>
<i>Urban</i>	<i>0.0</i>

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Note. *N*=66.

Table 3

*Frequency of use of transition practices for students with ASD*

Item	%
Kindergarten placement Identified	85.2
Related services indentified	82.2
Transition timeline created	49.1
Contact person identified	60.3
Goals and Education Plan Identified	75.4
Parents Visit	51.4
Specific Classroom Selected	76.7
Transition Plan formalized	40.4
Professional Staff Identified	61.0
Sharing Information	22.4
Teacher Observes	23.2
Child Visits	50.9
Instructional Curriculum	45.5
Daily Schedule	51.8
Physical Environment Ready	49.1
Behavioral Support	63.2
Educational Plan	48.2
Parents Evaluate	26.0
Teachers Evaluate	37.2

Given to Administration

16.3

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*Note. N=66*

Table 4

*Transition Practices for Students with ASD Perceived as Highly Important*

Item	%
Kindergarten placement Identified	91.8
Related services indentified	90.8
Transition timeline created	81.8
Contact person identified	91.4
Goals and Education Plan Identified	90.8
Parents Visit	86.8
Specific Classroom Selected	90.0
Transition Plan formalized	74.6
Professional Staff Identified	78.3
Sharing Information	66.1
Teacher Observes	57.9
Child Visits	75.9
Instructional Curriculum	64.9
Daily Schedule	77.6
Physical Environment Ready	82.5
Behavioral Support	89.7
Educational Plan	75.4
Parents Evaluate	62.8
Teachers Evaluate	72.6

Given to Administration

41.7

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*N=66*

Table 5

*Barriers to implementing transition practices*

Barrier	%
Time Consuming	53.7
Class Lists generated too late	38.9
Interference with current students	13.0
Occurs during summer break/school personnel not available	64.8
Lack of information about students	33.3
Lack of training in area of kindergarten transition	25.9
Lack of training about ASD	29.6
Philosophical differences between previous educational program and transition program	48.1
Lack of administration support	20.4
Lack of family support	24.1

Note. *N*=66. Respondents could endorse as many barriers as applied.



Table 6

*Reliability of Survey items assessing frequency of transition practices*

Item	<i>M</i>	<i>SD</i>	<i>Corrected Item-Total Correlation</i>
Kindergarten placement Identified	4.30	.944	.674
Related services indentified	4.23	1.005	.593
Transition timeline created	3.33	1.340	.671
Contact person identified	3.61	1.445	.584
Goals and Education Plan Identified	4.05	1.233	.758
Parents Visit	3.56	1.125	.417
Specific Classroom Selected	4.09	1.092	.592
Transition Plan formalized	3.11	1.360	.655
Professional Staff Identified	3.67	1.396	.739
Sharing Information	2.64	1.366	.499
Teacher Observes	2.33	1.396	.466
Child Visits	3.21	1.463	.554
Instructional Curriculum	3.33	1.385	.731
Daily Schedule	3.30	1.478	.697
Physical Environment Ready	3.18	1.312	.701
Behavioral Support	3.71	1.225	.607
Educational Plan	3.47	1.280	.732
Parents Evaluate	2.44	1.541	.480
Teachers Evaluate	2.97	1.519	.523

Given to Administration	2.00	1.486	.487
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*Note. N = 66. Coefficient alpha = .927*

Table 7

*Predictors of transition practice with setting as the categorical predictor*

Step	R <sup>2</sup>	Adjusted R <sup>2</sup>	R <sup>2</sup> Change	F change	p-change
1	.145	.089	.145	2.588	.046*
2	.153	.083	.008	.571	.453
3	.281	.165	.128	2.491	.053**

*Note.* N = 66.

*Step 1. Continuous predictors, perception of training, years in current position, additional training, years experience working with ASD*

*Step 2. Categorical predictors added, Setting: rural, suburban*

*Step 3. Interaction terms involving continuous and categorical predictors*

\*Statistically significant at  $\alpha=.05$ .

\*\*Statistically significant at  $\alpha < .10$  for F-change for the addition of the interaction terms

Table 8 *Predictors of transition practices by setting: Rural*

Variable	<i>B</i>	<i>SE</i>	<i>95%CI</i>	<i>t</i>	<i>sr</i> <sup>2</sup>	<i>p</i>
Constant	393.912	22.830	[-9.256,87.080]	1.704	0.107	
Years in Current Position	-0.205	0.925	[-2.157,1.746]	-0.222	.0022	0.827
Years experience with ASD	0.130	0.643	[-1.226,1.486]	0.203	.0018	0.842
Perception of training with ASD	9.027	4.859	[-1.224,19.279]	1.858	.1560	0.081
Additional training	-0.520	4.095	[-9.160,8.120]	-0.127	.0007	0.900
R <sup>2</sup>	0.232					
F	1.283					
Adjusted R <sup>2</sup>	0.051					

*Note.* *N* = 22. CI= confidence interval. All tests of significance for R<sup>2</sup> and individual predictors conducted at  $\alpha=.05$ .

\*Statistically significant at  $\alpha=.05$ .

Table 9

*Predictors of transition practices for: Suburban Participants*

Variable	<i>B</i>	<i>SE</i>	<i>95%CI</i>	<i>t</i>	<i>sr<sup>2</sup></i>	<i>p</i>
Constant	94.855	18.232	[57.804,131.907]	5.203	0.000	
Years in Current Position	-0.371	0.313	[-1.006,0.265]	-1.185	.0287	0.244
Years experience with ASD	-1.435	0.510	[-2.471,-0.399]	-2.815	.1616	0.008*
Perception of training with ASD	0.322	3.482	[-6.754,7.398]	0.093	.0002	0.927
Additional training	-4.272	2.992	[-10.352,1.807]	-1.428	.0416	0.162
R <sup>2</sup>	0.306					
F	3.751*					
Adjusted R <sup>2</sup>	0.225					

*Note.* *N* = 39. CI= confidence interval All tests of significance for R<sup>2</sup> and individual predictors conducted at  $\alpha=.05$ .

\*Statistically significant at  $\alpha=.05$ .

Table 10

*Predictors of transition practice with position as the categorical predictor*

Step	R <sup>2</sup>	Adjusted R <sup>2</sup>	R <sup>2</sup> Change	F change	p
1	.165	.106	.165	2.772	.036
2	.169	.076	.004	.114	.893
3	.394	.209	.225	2.134	.051*

Note. N = 61. \*p<.05

*Step 1. Continuous predictors: perception of training, years in current position, additional training, years experience working with ASD*

*Step 2. Categorical predictors added, Position: Special Education Teacher, Kindergarten Teacher, School Psychologist*

*Step 3. Interaction terms involving continuous and categorical predictors added*

\* $\alpha$  <.10 for F-change for the addition of the interaction terms.

Table 11

*Predictors of transition practices by position: School Psychologists*

Variable	<i>B</i>	<i>SE</i>	<i>95%CI</i>	<i>t</i>	<i>sr</i> <sup>2</sup>	<i>p</i>
Constant	92.895	25.946	[38.59,147.20]	3.580	0.002	
Years in Current Position	0.240	0.401	[-0.599,1.080]	0.599	.0144	0.556
Years experience with ASD	-1.351	0.656	[-2.724,0.021]	-2.061	.1689	0.053
Perception of training with ASD	-3.052	4.743	[-12.98,6.860]	-.643	.0164	0.528
Additional training	-1.530	4.050	[-10.01,6.950]	-.378	.0056	0.710
R <sup>2</sup>	0.243					
F	1.526					
Adjusted R <sup>2</sup>	0.084					

*Note.* *N* = 24. *CI*= confidence interval All tests of significance for R<sup>2</sup> and individual predictors conducted at  $\alpha=.05$ .

\*Statistically significant at  $\alpha=.05$ .

Table 12

*Predictors of transition practices by position: Kindergarten Teachers*

Variable	<i>B</i>	<i>SE</i>	<i>95%CI</i>	<i>t</i>	<i>sr</i> <sup>2</sup>	<i>p</i>
Constant	69.173	15.953	[35.515,102.830]	4.336	0.000	
Years in Current Position	-0.812	0.382	[-1.618,-.005]	-2.124	.1225	0.049*
Years experience with ASD	-0.514	0.359	[-1.272,.243]	-1.432	.0557	0.170
Perception of training with ASD	7.149	3.160	[0.482,13.816]	2.262	.1397	0.037*
Additional training	-43512	2.706	[-10.220,1.197]	-1.668	.0756	0.114
R <sup>2</sup>	0.538					
F	4.948*					
Adjusted R <sup>2</sup>	0.429					

*Note.* *N* = 22. *CI*= confidence interval All tests of significance for R<sup>2</sup> and individual predictors conducted at  $\alpha=.05$ .

\*Statistically significant at  $\alpha=.05$ .



Table 13

*Predictors of transition practices by position: Special Education Teachers*

Variable	<i>B</i>	<i>SE</i>	<i>95%CI</i>	<i>t</i>	<i>sr</i> <sup>2</sup>	<i>P</i>
Constant	106.705	44.203	[8.214,205.195]	2.414	0.036	
Years in Current Position	-2.175	0.864	[-4.033,-0.318]	-2.609	.3856	0.026*
Years experience with ASD	0.775	1.180	[-1.8354,3.403]	0.657	.0243	0.526
Perception of training with ASD	-6.847	7.686	[-23.974,10.279]	-0.891	.0449	0.394
Additional training	0.852	7.098	[-14.963,16.668]	0.120	.0008	0.907
R <sup>2</sup>	0.434					
F	1.915					
Adjusted R <sup>2</sup>	0.207					

*Note.* *N* = 15. *CI*= confidence interval All tests of significance for R<sup>2</sup> and individual predictors conducted at  $\alpha=.05$ .

\*Statistically significant at  $\alpha=.05$ .

**Appendix A**

**Survey**

Directions: Please complete the following survey based on the preparation and procedures used in your current district for students with Autism Spectrums Disorders (ASD) transition into kindergarten classified as ASD under IDEA. ASD is characterized by qualitative impairments in communication and social functioning and the inclusion of restrictive, repetitive, stereotyped interests or behaviors. The term autism spectrum disorder refers to Autistic Disorder, Asperger’s Disorder, and Pervasive Developmental Disorder Not Otherwise Specified

**Survey**

**Kindergarten Transition Practices for Students with Autism Spectrum Disorders**

1. Please check one:

Male    Female

2. Please provide your current age: \_\_\_\_\_

3. Please indicate which race you most strongly identify with:

Caucasian      African American      Native Hawaiian/ Pacific Islander      Asian      Native American      Other

4. Please indicate which ethnicity you most strongly identify with:

Hispanic/Latino      Non-Hispanic/Latino

5. Please check your current position held in the educational system:

Kindergarten teacher    Speech Language Pathologist/Therapist    School Psychologist    Other

6. Please identify your district's current setting:

Rural    Urban    Suburban

7. Please indicate number of years spent in current position: \_\_\_\_\_

8. Please indicate the number of years experience you have had working with students with Autism Spectrum Disorders: \_\_\_\_\_

9. Amount of training received in the area of Autism Spectrum Disorders (eg. identifying core characteristics, learning needs, information on evidence based interventions or practices: (Check all that apply)

\_\_\_ Completion of a program of study in ASD

\_\_\_ College or Graduate Course specifically on ASD with supervised Field Experience

\_\_\_ College or Graduate Course specifically on ASD

\_\_\_ College or Graduate Lecture

\_\_\_ Workshop (3 or more hours)

\_\_\_ In-service

\_\_\_ None

\_\_\_ Other: Please

Specify \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Items 10-30 indicate how frequently you observe the various kindergarten transition practices for students with ASD and how important you think the practice is to help ensure a successful transition to kindergarten. Also indicate how far in advance the practice typically occurs. Please use the following ratings when responding to each item.

Frequency 1= never 2=rarely 3= sometimes 4= often 5= always

Importance 1= not important at all 2= slightly important 3= fairly important 4= quite important 5= very important

10. Type of kindergarten placement is identified prior to transition (self-contained, general education, resource room, specialized program)

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur? \_\_\_\_\_

11. Related Services for child are identified prior to transition:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur? \_\_\_\_\_

12. Transition timeline is created which included roles and responsibilities of transition team members:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

13. Individual is identified as contact person regarding transition process for parents and teachers prior to transition:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

14. Goals and educational plan are identified for transitioning student prior to transition:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

15. Parents visit type of placement selected for transitioning child prior to transition:

Frequency            1            2            3            4            5

Importance 1           2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

16. Specific kindergarten classroom is selected prior to transition:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur? \_\_\_\_\_

17. Transition plan is formalized and includes specific steps needs to complete the transition prior to transition:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur? \_\_\_\_\_

18. Professional staff working with the student are identified prior to transition:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur? \_\_\_\_\_

19. Receiving kindergarten teacher observes child in preschool setting prior to transition:

Frequency            1            2            3            4            5

Importance            1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

20. Kindergarten teacher and preschool teacher meet to share information about child prior to transition:

Frequency            1            2            3            4            5

Importance            1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

21. Child visits kindergarten classroom prior to transition:

Frequency            1            2            3            4            5

Importance            1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

22. Instructional curriculum for student is identified prior to transition:

Frequency            1            2            3            4            5

Importance            1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

23. Daily schedule for child is created prior to transition:

Frequency            1            2            3            4            5

Importance            1                    2                    3                    4                    5

How many months in advance does this practice occur?\_\_\_\_\_

24. Physical environment (technology, schedule, any additional items needed for child’s success in the classroom) is ready for child prior to transition:

Frequency            1                    2                    3                    4                    5

Importance            1                    2                    3                    4                    5

How many months in advance does this practice occur?\_\_\_\_\_

25. Parents evaluate the transition process for the child after transition has taken place:

Frequency            1                    2                    3                    4                    5

Importance            1                    2                    3                    4                    5

How many months in advance does this practice occur?\_\_\_\_\_

26. Teachers evaluate the transition process for the child after transition has taken place:

Frequency            1                    2                    3                    4                    5

Importance            1                    2                    3                    4                    5

How many months in advance does this practice occur?\_\_\_\_\_



27. Behavioral support needs are identified for the student before the start of kindergarten

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

28. Evaluation of transition is given to the administrator in charge of transition planning months after transition has taken place:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

29. The educational plan of students transitioning with ASD is focused around functional communication:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

30. A written transition plan is developed for transitioning child:

Frequency            1            2            3            4            5

Importance           1            2            3            4            5

How many months in advance does this practice occur?\_\_\_\_\_

If a written transition plan is used please check members that are involved the majority of the time in the transition planning process:

Preschool teacher or intervention agency      Kindergarten teacher      OT/PT Speech

School Psychologist      Child's Family      School Principal      CSE Chair

CPSE Chair      Other Community Provider (Pediatrician, Psychologist, Etc)

31. Please Identify items that you feel to be barriers to effectively using kindergarten transition practices for students with ASD:

Check all that apply:

Time consuming

Class lists generated too late

Interference with current students

Occurs during summer break/ school personal not available

Lack of information about student

Lack of training in area of kindergarten transition

Lack of training about ASD

Philosophical differences between previous educational program and transitioning educational program (Preschool theoretical orientation (ABA, Floortime etc.) is different from the program that the student is transitioning to)

Lack of administration support

Lack of family support

Other \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

32. How well do you feel your training has prepared you to work with students with ASD?

Very poorly	Poorly	Average	Well	Very Well
1	2	3	4	5

33. How much additional training in ASD do you wish you had?

None	A little	Some	More	Much more
1	2	3	4	5

## **Appendix B**

### **Cover Letter**

Dear Participant,

My name is Cassandra McCumber. I am currently a graduate student in the School Psychology Program at the Rochester Institute of Technology. I am conducting a survey examining the practices used for kindergarten students with Autism Spectrum Disorder (ASD) for my thesis project. The goal of this study is to identify which transition practices are being utilized for students with ASD in Western New York, factors related to their use, the level of perceived importance of each transition practice and barriers to implementation. You were selected as a potential participant because your e-mail was publicly available on the district website. All school districts in Livingston, Monroe, Ontario and Wayne counties of New York were selected for participation.

The survey will take 10-15 minutes to complete. All responses will be completely anonymous. There will be no way to link survey responses to individuals. Data will only be made assessable to the researcher and researcher's advisor. Participation is completely voluntary. There are no risks anticipated with your participation above and beyond what would be encountered in a school based professional's typical work day. You may choose to discontinue your participation without penalty. Also, you are free to choose which questions you wish to answer. Your completion and submission of the survey indicates your consent to participate in this study. If you wish to take part in this study please click the link provide below and follow the instructions. I encourage you to contact me or my advisor, Dr. Vincent Pandolfi, if you have any further questions in regards to the survey. If you would like a summary of the results of the survey please e-mail me your e-mail address. My contact information is provided below. Thank you in advance for considering participation in this study.

Survey Link

Sincerely,

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