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ACCEPTANCE

This dissertation, PERCEPTIONS AND ROLES OF SCHOOL PSYCHOLOGISTS IN TRANSITION SERVICES FOR STUDENTS WITH INTELLECTUAL DISABILITIES, by DEVADRITA TALAPATRA, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the College of Education, Georgia State University.

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ABSTRACT

PERCEPTIONS AND ROLES OF SCHOOL PSYCHOLOGISTS IN TRANSITION SERVICES FOR STUDENTS WITH INTELLECTUAL DISABILITIES

by
Devadrita Talapatra

Transition plans and services can have positive benefits on post-school outcomes for students with intellectual disabilities (ID). School psychologists have much to contribute to the transition process, but previous studies have indicated they often have limited involvement in this domain. A national survey was conducted to assess school psychologists' knowledge, attitudes, and behaviors in regards to transition services for students with ID. Respondents included 176 practicing school psychologists from 21 states. Based on Ajzen's (1985) Theory of Planned Behavior (TPB), the survey used in the study focused on school psychologists' transition-related knowledge, attitudes, and behaviors. To understand the role of school psychologists in transition services for students with ID, data collection and analyses addressed (a) the underlying factor structure of the transition survey; (b) the relationship between school psychologists' frequency of involvement in transition services and their self-reported transition knowledge, attitudes towards transition activities, and background experiences; and (c) the relationship between school psychologists' perceived importance of transition tasks and their transition knowledge and background experiences. An exploratory factor analysis was conducted to verify the survey's factor structure, and three factors supporting the TPB framework were identified: Knowledge, Attitude, and Behaviors. Scores for the instrument and subscales demonstrated acceptable reliability. A backward multiple regression was conducted with transition involvement as the criterion variable and respondents' self-reported transition knowledge and attitudes, and background

experiences as predictor variables. Attitude, knowledge, and previous experience with the ID population were found to be significant predictors of performance of transition tasks, accounting for 63.9% of the variance combined. A backward multiple regression also was conducted with attitudes toward transition as the criterion variable and respondents' self-reported transition knowledge and background experiences as predictor variables. Knowledge was found to be the only significant predictor of respondents' attitudes, accounting for 26.9% of the variance. Implications for practice and policy include increasing school psychologists' specific knowledge of transition services and transition needs of students with ID, evaluating graduate programs and school districts' openness towards school psychologists performing transition tasks, and advocating for special education reform to modify the roles and responsibilities of school psychologists.

PERCEPTIONS AND ROLES OF SCHOOL PSYCHOLOGISTS IN TRANSITION
SERVICES FOR STUDENTS WITH INTELLECTUAL DISABILITIES

by
Devadrita Talapatra

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ABBREVIATIONS

APA	American Psychological Association
ASD	Autism Spectrum Disorder
CBI	Community-Based Instruction
IDD	Intellectual and Developmental Disability
ID	Intellectual Disability
NASP	National Association
TPB	Theory of Planned Behavior

CHAPTER1

THE ROLE OF SCHOOL PSYCHOLOGISTS IN EFFECTIVE TRANSITION
TO POST-SCHOOL SETTINGS FOR STUDENTS WITH INTELLECTUAL AND
DEVELOPMENTAL DISABILITIES

“Engaging in lifelong learning and growth opportunities throughout adulthood is important to one’s sense of purpose, personal well-being, and financial independence”

(Stodden and Whelley, 2004, p. 6)

Students with an intellectual and developmental disability (IDD) receive instruction in academic, living, and vocational skills throughout their educational tenure with the expectation that after high school, they will successfully transition to post-school settings (Hendricks & Wehman, 2009). Yet, post-school opportunities continue to be limited for this population (O’Brien & Daggett, 2006; Schall, Cortijo-Doval, Targett, & Wehman, 2006). In the last three decades, legislative and policy changes have highlighted the need for transition services as individuals with IDD move from the K-12 educational system into adult life. The reauthorization of Individuals with Disabilities Education Act (IDEA; 2004) specifically sought to improve post-school outcomes by emphasizing preparation in the secondary school setting. And while IDEA (2004) included many stipulations for the transition process (e.g., requiring public school systems to focus on individual student needs to better facilitate students’ movement from school to post-school activities), this federal law did not specify who should be responsible for ensuring the development and realization of outcomes-driven transition goals.

School districts often look to special education teachers or vocational rehabilitation counselors to assume responsibility for the transition process (Ulmer, 2005). School districts might also consider school psychologists when seeking personnel to provide transition services. Due to their training and knowledge regarding adolescent social and cognitive development, school psychologists can play a valuable role in the transition process (Christenson, Reschly, Appleton, Berman, Spangers, & Varro, 2008; Osher et al., 2008). For school psychologists the “openness” of the IDEA (2004) transition mandates creates an opportunity to increase their engagement in transition services for students with IDD. Transition services provide a forum for school psychologists to fulfill legal responsibilities by ensuring students with IDD are receiving person-centered and results-driven transition plans (IDEA, 2004). School psychologists’ ethical responsibilities are also realized by adhering to the principles of justice, beneficence, fidelity and responsibility, and respect for people’s rights and dignity (American Psychological Association [APA], 2010). Finally, transition services allow school psychologists to accomplish professional obligations by supporting individualized education program (IEP) and transition teams.

In reframing the role of school psychologists in transition services, this paper has a threefold purpose: 1) to contribute to the school psychology knowledge base regarding the transition process for students with IDD; 2) to explore the current status of transition outcomes for students with IDD; and 3) to propose role expansion for school psychologists in the arena of transition services for students with IDD. In discussing the suggested role expansion, the paper includes a review of the present involvement of school psychologists in the area of transition planning and proposes “best practices” for

school psychologists in planning for an effective transition to post-school settings for students with IDD.

Intellectual and Developmental Disabilities

The definition of intellectual and/or developmental disability varies depending on the source. For example, the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR; APA, 2000) defines intellectual disability as below-average intellectual functioning supported by significant intellectual impairment, significant limitations in adaptive functioning, and onset of these difficulties before the age of 18 (APA, 2000). The World Health Organization (WHO) International Classification of Diseases (ICD-10, 2008) reports intellectual disabilities as a heterogeneous group of conditions characterized by low or very low intelligence and deficits in adaptive behaviors without reference to etiology. For the purposes of this paper, the American Association on Intellectual and Developmental Disabilities (AAIDD, 2011) IDD definition will be used: a disability originating during the developmental period and characterized by limitations both in intellectual functioning and in adaptive behavior. More specifically, intellectual functioning refers to general mental capacity (e.g., ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, and learn quickly and from experience); adaptive behavior refers to a range of everyday conceptual, social and practical skills (e.g., daily life activities, communication, social participation, functioning at school or at work, or personal independence at home or in community settings); and the developmental period refers to conception through age 18 years (AAIDD, 2011). IDD can be considered a diverse continuum of disorders that range from mild to severe (American Psychiatric

Association, 2000; Neisworth & Wolfe, 2005). Those with IDD may include, but are not limited to, individuals with autism spectrum disorder (ASD), cerebral palsy, Down syndrome, Fragile X, and fetal alcohol spectrum disorder (FASD) (WHO, 2008). In other words, any permanent syndromes or neurological conditions that result in impairment of general intellectual functioning and adaptive behavior, and which may create lifelong challenges for the individual in major life activities such as language, learning, self-help, and independent living, can be considered an IDD (Centers for Disease Control and Prevention [CDC], 2011; Gilchrist et al., 2001).

Intellectual disability (ID) affects about 1 in 10 families in the United States (U.S.; AAIDD, 2011) and Developmental disability (DD) are reported in 1 in 6 children in the U.S. (Boyle et al., 2011). Estimates of IDD' prevalence vary depending on study methodology (e.g., diagnostic criteria, research design). Larson et al. (2001) estimated the prevalence of ID in the non-institutionalized population of the U.S. to be 7.8 people per thousand (.78%); the prevalence of developmental disabilities in the same population is estimated at 11.3 people per thousand (1.13%); and the combined prevalence of intellectual and/or developmental disabilities is about 14.9 per thousand (1.49%). Overall, an estimated 4.6 million individuals have an intellectual or developmental disability in the U.S. (Larson et al., 2001). Specifically, of the nearly 6 million students (ages 6-21) with disabilities served under IDEA (2004) during the 2009–2010 school year, 6.4% of the students were categorized as having an ASD and 7.6% were categorized as having an ID (U.S. Department of Education [U.S. DOE], 2011).

National survey data of practicing school psychologists indicate that practitioners spend more than two-thirds of their time in activities related to students with identified

disabilities (Curtis, Grier, Abshier, Sutton & Hunley, 2002). Given the current prevalence data of ASD (1 in 50 school-age children with ASD; Blumberg et al., 2013) and intellectual disabilities (1 in every 10 children who need special education have some form of ID; U.S. DOE, 2011), and changing criteria for identification and inclusion in educational disability categories (i.e., response-to –intervention [RTI]), it is likely that school psychologists will encounter increased rates of secondary students with IDD requiring transition services.

IDEA (2004), however, data do not appear to capture the entirety of the IDD population. It should be noted that other disability categories, such as learning disabilities, multiple disabilities, and deaf-blindness, could account for an additional population of students with IDD. Because disabilities are considered in the context of a learning environment, it is possible for a student to have a medical diagnosis of, say, autism, but not be considered a child with an autism disability under IDEA (2004). Placement in special education services is dependent on the adverse impact the condition has on student learning (IDEA, 2004). A student is identified under the IDEA (2004) disability category that appears to account for the greatest impact on education. Consequently, students with IDD could be classified under other disability categories, making it difficult to determine the actual prevalence of students with an IDD.

Transition Services for Students with IDD

Nearly 30 years ago, Madeline Will (1984), former Assistant Secretary in the U.S. Office of Special Education and Rehabilitative Services, spoke of the need to prepare students for work as a way of helping them make a successful transition to adult life. In response to Will and others' initiative, the School-to-Work Opportunities Act of 1994

(STWOA) was passed proposing a partnership between students, parents, schools, post-school institutions, employers, and appropriate government agencies to form a link between school and work. This legislation sought to increase the number of youth, including those with disabilities, who graduated from high school, transitioned into postsecondary education, and had opportunities for meaningful employment based on their interests and goals. Over time, the focus of transition services has expanded to include not only vocational services and education, but also postsecondary education, adult services (continuing and adult education, financial education, integrated employment and supported employment), independent living, and community participation (Halpern, 1985; IDEA, 2004). Such post-school outcomes are commonly believed to be crucial for young adults' success and well being (Newman et al., 2011), and are often seen as indicators of adulthood and social responsibility (Arnett, 2001).

Currently, transition services refer to a coordinated set of activities for youth with disabilities to facilitate their movement from school to post-school activities (IDEA, 2004). The goals of transition services are to increase the likelihood of employment, education and other important post-school outcomes for students with disabilities (Mazzotti et al., 2009). Although some individuals with IDD are able to successfully transition, many are faced with hurdles as they attempt to negotiate their way into college, work, community participation, or independent living (Hendricks & Wehman, 2009). In addition to these societal obstacles, individuals with IDD may face personal obstacles. Challenging behaviors (Smith, 1990; Van Bourgondien & Elgar, 1990), limited social skills (Arick, Krug, Fullerton, Loos, & Falco, 2005; Howlin, 2000; Orsmond et al., 2004), and limited independence outside of the home (Wagner et al., 2005) are key

deterrents to post-school opportunities. As young adults with IDD transition into varied post-school roles, they require transition services to navigate the complex, often “frustrating,” adult world (Pearman, Elliott, & Aborn, 2004, p. 26). They require individualized transition services to address their needs in order to achieve the goal of maximum, appropriate independence and participation in a variety of post-school contexts (Mazzotti et al., 2009).

While an IEP addresses academic goals, a separate detailed statement of services and interagency responsibilities should be developed as part of the student’s IEP by age 16 to specifically address transition needs (IDEA, 2004, Section 300.321). This statement, or transition plan, may include goals related to instruction, related services (e.g., speech therapy, occupational therapy, physical therapy), community experiences, the development of employment and other post-school adult living objectives, and, if appropriate, acquisition of daily living skills and functional vocational evaluation (IDEA, 2004). Regardless of the goals, the transition plan should emphasize and include the student’s strengths, interests, and preferences (IDEA, 2004). The transition plan will serve as a map for family members and the individual; it serves as a reminder for the goals the student has, the services the student needs to accomplish the goals, and the skills the student must master to attain the goals (Mazzotti et al., 2009).

Best practices dictate that transition planning should begin when students enter high school, around ages 13 or 14, with planning increasing in intensity as the student enters the middle to late teen years (Mazzotti et al., 2009; Wehman, 2006). Additionally, IDEA (2004) deemed that transition services should be results-oriented. In other words, transition services should focus on improving the academic, functional achievement of

the student to best promote success of post-school goals (IDEA, 2004). Coordinated professional input such as timely engagement with service agencies, postsecondary education programs, disability coordinators, job placement agencies, adult day programs, and supported living agencies is necessary to ensure a successful transition plan (Hendricks & Wehman, 2009).

Post-school Outcomes for Individuals with IDD

Poor outcomes for individuals with IDD persist despite multiple legislative acts addressing the transition of students with disabilities from school to adult life (Wittenburg, Golden, & Fishman, 2002; Yuen & Shaughnessy, 2001). For example, although the STWOA (1994) brought attention to youth exiting the school system, the National Council on Disability (2000) reported that many graduates with disabilities did not possess the necessary skills to be successful on the job. Unemployment rates remained intolerably high for youth with disabilities. The National Longitudinal Transition Study-2 (NLTS2; Newman et al., 2011) collected information over 10 years from a large, nationally representative sample of students receiving special education, their families, and their schools to provide a “national picture of the experiences and achievements of young people” as they transitioned into early adulthood. Analyses of this longitudinal data set confirmed that the number of young adults with IDD engaged in paid employment, postsecondary education, or job training since leaving high school remains less than the number of engaged same-age peers in the general population (Newman et al., 2011). The findings underscored the need for transition services to serve as a bridge for young adults with disabilities as they move from mandated educational

services to the less structured world of adult services (Newman et al., 2011; Nuehring & Sitlington, 2003; Pearman, Elliott, & Aborn, 2004).

Post-secondary education is a primary transition goal for more than four out of five secondary school students with disabilities (Cameto, Levine, & Wagner 2004). The Newman et al. (2011) indicated that students with IDD were the least likely of all the disability categories, which included learning disabilities, deaf-blindness, orthopedic impairments, hearing impairments, visual impairments, traumatic brain injury, and speech-language impairment, to be enrolled in post-secondary educational institutions (29-44% vs. 61-75%, respectively; Newman et al., 2011). Completion of nearly any type of postsecondary education significantly improves an individual's chances of securing meaningful employment (Gilmore, Schuster, Zafft, & Hart, 2001; Hart, Mele-McCarthy, Pasternack, Zimbich, & Parker, 2004; Stodden & Zucker, 2004; Zafft, Hart, & Zimbrich, 2004). Laws, such as the Higher Education Opportunities Act (2008), have made it possible for students with IDD to be eligible to qualify for educational opportunity grants (e.g., Federal Work Study Program, Pell Grants) as long as they are enrolled and making satisfactory progress in a comprehensive postsecondary program for students with IDD at an institution of higher education (e.g., two or four year colleges/universities or technical schools). Yet, research studies indicated that many students with IDD have yet to capitalize on postsecondary options (Newman et al., 2011; U.S. Department of Health & Human Services [HHS], 2010).

Achieving employment is typically the primary transition goal of the majority of secondary students with disabilities served under IDEA (Cameto et al., 2004). Many individuals with IDD choose to enter the workforce as their post-school option (O'Brien

& Daggett, 2006). Employment has been linked to a range of positive outcomes, including financial independence, social networks, and enhanced self-esteem (Fabian, 1992; Lehman et al., 2002; Levinson & Palmer, 2005; Polak & Warner 1996; Rogan, Grossi, & Gajewski, 2002). However, according to the National Center for the Study of Postsecondary Educational Supports (NCSPEs), students with disabilities reported an overall fear of transition, specifically with regard to employment (Stodden, 2000). Workplace discrimination, poor preparation, and the denial of accommodations needed to successfully perform on the job were main concerns voiced by students with disabilities (Stodden, 2000). Validating these concerns, the majority of people with IDD continue to experience higher rates of unemployment and underemployment than typically developing peers despite research documenting the employability of the IDD population (Howlin, 2000; Müller, Schuler, Burton, & Yates, 2003; National Organization on Disability, 2004; Wagner et al., 2005). Students with IDD are less likely to have been employed than young adults with other health impairments, speech/language impairments, learning disabilities, or hearing impairments (37-39% vs. 57-67%; Newman et al., 2011). Individuals with IDD also make less money than their non-disabled counterparts (Cameto et al. 2004; Hurlbutt & Chalmers, 2004; Jenness-Coussens, Magill-Evans, & Koning, 2006). Young adults with IDD also make less per hour than their peers with learning disabilities, speech/language impairments, hearing impairments, visual impairments, other health impairment, or emotional disturbances (\$7.90 vs. \$10.50 - \$11.10; Newman et al., 2011). It should not be surprising that individuals with IDD are often unsatisfied with their employment (National Organization on Disability, 2004). For people with IDD, the disparity in labor market participation continues to grow

(Butterworth et al., 2011; HHS, 2010). Unemployment rates have hovered around 70% for individuals with IDD since 1994 (Levinson, 2008). The lack of opportunities in the labor market may be one of the reasons adults with disabilities are more than twice as likely as persons without disabilities to live below the poverty line and be financially dependent on government programs or their families for financial support (Stapleton, O'Day, Livermore, & Imparato, 2006).

Independent living, financial stability, and community engagement for individuals with IDD showed similar disparities as post-secondary and employment data. The NLTS2 data suggested young adults with disabilities were less likely to be living independently than were their same-age peers in the general population. Less than half (45%) of youth with disabilities reported living independently at the time of the interview. In particular, individuals with IDD represented the lowest percentiles of independent and semi-independent living (Newman et al., 2011). Household income was found to be positively related to the likelihood of enrolling in postsecondary schools (Newman et al., 2011). With 74% of young adults with disabilities reported to have annual incomes of \$25,000 or less, low postsecondary enrollment rates are expected (Newman et al., 2011). As an example, young adults with IDD were the least likely to have a checking account (29%) or credit card (19%) as compared to several other disability categories (Newman et al., 2011). Youth with IDD also face barriers due to social and behavioral deficits that may preclude their full participation in community groups and activities (Hendricks & Wehman, 2009). Participation for individuals with disabilities in social, religious/spiritual, recreational, community, and civic activities were stated to be less than the participation of their peers without disabilities (HHS, 2010).

The consensus of research findings indicates that while some post-school options are available, they are unevenly distributed among the IDEA disability categories and not always accessible or fully utilized (Newman et al., 2011). Currently, there is a gap in service provision and multidisciplinary support for individuals with IDD in regards to higher education and vocational and work-based services (Mawhood & Howlin, 1999). For a student with an IDD, transition services can help identify a network of informal and formal supports needed to be successful in post-school roles, and can help clarify future desires and goals (Stodden & Whelley, 2004). Engagement in post-school options provides opportunities for students to increase self-determination and autonomy (Weymeyer & Palmer, 2003), quality of life (Halpern, 1993), self-esteem, and social inclusion (Wolfensberger, 2000). Although many students with IDD have yet to capitalize on post-school opportunities, improved transition services would allow a larger number of individuals with IDD to access available post-school options and move into satisfying and meaningful adult roles (Wehman, Hess, & Kregel, 1996; West, Mast, Cosel, & Cosel, 1996).

School Psychologists and Current Practices in Transition Services

In light of the preponderance of data illustrating the need for comprehensive transition services, it is disappointing that school psychologists appear to be underutilized and underrepresented in transition-related activities (Lillenstein, 2002). In survey studies examining the participation of school psychologists in transition-related services, the majority (50-54%) of practicing school psychologists reported that they should be more involved in transition activities (Lillenstein, 2002; Staab, 1996). However, school psychologists also indicated that they were unprepared to assist in transition services

(Lillenstein, Levinson, Sylvester, & Brady, 2006; Ulmer, 2004). Although participating in transition-related activities may be an unfamiliar role to many school psychologists, embracing this practice opportunity is necessary for school psychologists who would like to see expansion in professional roles within school systems, educational reform, and improved outcomes for students with IDD. Not only are transition services an avenue for professional growth, but also a professional domain that school psychologists should prioritize due to the field's ethical, professional, and legal obligations.

Ethical Considerations

Although the NASP *Principles for Professional Ethics* (2010) Standard I.3.4 states that “all children have equal opportunity to participate in and benefit from school programs and that all students and families have access to and can benefit from school psychological services,” there is minimal information regarding school psychologists and their involvement in planning for school and post-school services for students with IDD (p. 6). Indeed, school psychologists should work to “meet the needs of all students as they transverse the path to successful adulthood” (Ysseldyke et al., 2006, p. 12). The NASP *Model for Comprehensive and Integrated School Psychological Services* (2010) instructs school psychologists to provide effective services to help all children and youth, including those with IDD, succeed academically, socially, behaviorally, and emotionally. APA *Ethical Principles of Psychologists and Code of Conduct* (2010) states “Psychologists recognize that fairness and justice entitle all persons to access to and benefit from the contributions of psychology.” School psychologists have a multitude of skills that allow them to be a key resource for individuals with IDD and their families during the transition process. Considering research studies underscore the positive

benefits of transition services on long-term, post-school outcomes (Cameto, 2005; Crane & Mooney, 2005; Seelman, 2000), it is only fair, just, and right that school psychologists offer their services to students with IDD during the transition process.

The NASP *Principles for Professional Ethics* (2010) charges school psychologists to practice “beneficence, or responsible caring, [meaning] that the school psychologist acts to benefit others.” School psychologists should promote healthy school, family, and community environments and provide services that positively impact life outcomes for all students (Ysseldyke et al., 2006). For students with IDD, secondary school preparation and transition services are critical for a successful shift from high school to post-secondary settings (Nuehring & Sitlington, 2003; Pearman, Elliott, & Aborn, 2004; Stodden & Whelley, 2004). Considering the ethical mandates, school psychologists should feel compelled to ensure that students with IDD are receiving proper transition services. Furthermore, the NASP *Principles for Professional Ethics* (2010), Principle 1.1 states, “school psychologists respect the right of persons to participate in decisions affecting their own welfare” (p. 3). During IEP meetings, transition planning, and goal development, school psychologists should advocate for student participation and student input throughout the planning process.

As noted previously, students with IDD require a variety of services and supports that are individualized and needs-driven to ensure post-school success (Wolfe, 2005). NASP Ethical Standard I.3.2 notes, “School psychologists pursue awareness and knowledge of how diversity factors may influence child development, behavior, and school learning” (NASP, 2010, p. 4). School psychologists should have knowledge of the IDD population. Then, they can offer direct services via interventions (e.g., developing

social skills, self-determination skills) to help students achieve a successful transition (Wehmeyer & Palmer, 2003). School psychologists experienced in program evaluation can use those skills to evaluate the effectiveness of services and planning at the school or district level.

School psychologists should also work with parents, educators, and other professionals to create supportive learning and social environments for all children (Ysseldyke et al., 2006). NASP Standard III.3.1 states, “To meet the needs of children and other clients most effectively, school psychologists cooperate with other psychologists and professionals from other disciplines in relationships based on mutual respect” (NASP, 2010, p. 10). School psychologists can serve as consultants in the areas of learning and behavior, and assist educators in developing academic and behavior management goals (Levinson & Murphy, 1999). School psychologists are also able to play a particularly important role in supporting students’ families. They may assist parents and other caregivers through facilitating family-school collaborations, parent training programs, and short-term family counseling. To ease the path of students as they move from school to post-school, school psychologists can share the transition plan, assessment, and interventions with post-school professionals. They can act as the liaison within the transition team to facilitate communication and information sharing between parents, school, community agencies, potential employers and post-secondary institutions (Lillenstein, 2002).

Professional Considerations

As Batsch (1992) said, “school psychologists must accept responsibility for promoting change and providing a broader range of services. Our future depends on it”

(p. 2). The field of school psychology historically has been linked to special education services (Hohenshil, 1984) with the role of the school psychologist primarily rooted in psychoeducational testing (Fagan, 2004). Assessment-related duties and categorical placement of children in special education services often take precedence over school psychologists' provision of intervention, consultation, and intervention despite on-going discussions of role changes among leaders in the field (Farrell, 2010; Gilman & Gabriel, 2004; Reschly & Ysseldyke, 2002; Worrell, Skaggs, & Brown, 2006). Potential role expansion for school psychologists into vocational and occupational assessment and training programs was suggested as much as three decades ago (Batsche, 1992; Hohenshil, 1984). To contribute to the transition process, school psychologists can collect data (e.g., standardized assessments, behavioral observations, teacher reports, student work, student interviews, curriculum based measures) and take an active role in developing, implementing, and monitoring transition-related goals and interventions. Assessment-driven practice has led to criticism by some school psychologists as the root of professional stagnation (Conoley & Gutkin, 1995; Restori, Gresham, & Cook, 2008; Wnek, Klein, & Bracken, 2009; Worrell, Skaggs, & Brown, 2006). School psychologists could expand their practices to support transition services. To demonstrate the applicability of school psychologists' knowledge and skills to transition, Table 1 displays how the NASP *School Psychology: Blueprint for Training and Practice III* (Ysseldyke et al., 2006) domains of practice can be applied to transition services. The Blueprint documents historically have served as vision statements for school psychologists, stimulating discussion and providing direction for training and practice.

Table 1

NASP Competencies Applied to Transition Practices

Domain	Recommendation
Interpersonal and Collaborative Skills	School psychologists should work with students, teachers, parents, counselors, and adult-service and community agencies to develop and implement transition goals
Professional, Legal, Ethical, and Social Responsibility	Advocate on behalf of the students, help others understand the unique needs of the students and assist them in making accommodations for the students
Data-Based Decision Making and Accountability	Gather information regarding a student's intellectual, academic, and social functioning and interpret this data from a strengths-based, post-school perspective
Enhancing the Development of Cognitive and Academic Skills	Because transition planning should be based on accurate and relevant information about a student's skills, interests, goals, school psychologists should evaluate the student using strengths-based assessments to identify what skills they have (and need) to successfully transition out of secondary school

Enhancing the Development of Wellness, Social Skills, Mental Health, and Life Competencies

School psychologists should promote skills and confidence of the student through counseling and interventions. Quality of life components should be considered when determining the strengths-based assessment battery, goal development, and plan evaluation.

Transformation of school psychology job descriptions is one method of satisfying the many in the field who have expressed desires to grow beyond assessment activities (Gilman & Gabriel, 2004; Worrell, Skags & Brown, 2006). School psychologists should support an increased role in transition activities as it provided opportunities to employ old skills in new ways.

Legal Considerations

School psychology has been strongly influenced by trends in special education policy (Fagan, 2004; Hohenshil, 1984). There are several laws (see Table 2) that offer information that school psychologists can disseminate to providers, students and their families about rights and resources related to transition and post-school options; however, IDEA (2004), arguably, has had the greatest influence on the role and functions of school psychologists (Reschly, 2000).

Table 2

Selection of Legislative Acts Pertaining to Transition Services

Law	Transition Applicability
ADA and Section 504	<p>ADA and Section 504 are civil rights laws that say you cannot be discriminated against by employers, or by job training programs, job banks, or postsecondary schools. These laws do not provide job training; but, each state has a vocational rehabilitation (VR) agency authorized and funded by the Rehabilitation Act that provides job related rehabilitation services to individuals with disabilities who meet their eligibility standards. The kinds of services provided by the state VR agency include disability and job skill assessments, career counseling, skills training and job placement.</p>
Carl D. Perkins Vocational and Technical Education Act of 2006	<p>The purpose of Perkins is to provide individuals with the academic and technical skills needed to succeed in a knowledge- and skills-based economy. Perkins supports career and technical education that prepares its students both for postsecondary education and the careers of their choice. It helps ensure access to career and technical education for special populations, including students with disabilities</p>
The Higher Education Opportunity Act 2008	<p>The reauthorization of the in 2008 opened the door to postsecondary education for students with intellectual disability. For the first time, students with intellectual disability are eligible to qualify for the Federal Work Study Program, Pell Grants, and other</p>

Supplemental Educational Opportunity grants. To qualify, students must be enrolled in a Comprehensive and Postsecondary Program for students with an intellectual disability at an institution of higher education (e.g., two or four year colleges/universities or technical schools) and must be making satisfactory progress.

IDEA 2004 Seeking to improve upon the unacceptable post-school outcomes for students with disabilities, Congress has provided several new requirements to strengthen transition planning, effective July 2005. IDEA 04 has 1) established one clear starting age requirement for the start of transition planning. IEP Teams must now include transition planning in the first IEP that will be in effect when the child is 16 years of age; 2) mandated the development of appropriate measurable postsecondary goals based upon age, appropriate transition assessments related to training, education, employment, and, where appropriate, independent living skills; and 3) mandated the development of a statement of the transition services (including courses of study) needed to assist the child in reaching those goals.

The
Rehabilitation
Act of 1973

The Act authorizes research activities that are administered by the National Institute on Disability and Rehabilitation Research and the work of the National Council on Disability. The Act also includes a variety of provisions focused on rights, advocacy and protections for individuals with disabilities. It authorizes the formula grant programs of vocational rehabilitation, supported employment, independent living, and client assistance. It also authorizes a variety of training and service discretionary grants administered by the Rehabilitation Services Administration.

Ticket to Work
and Work
Incentives
Improvement
Act

The Ticket to Work and Work Incentives Improvement Act, signed into law in 1999, is designed to help SSI beneficiaries join the workforce without losing their Medicaid benefits. The Ticket to Work program provides a "Ticket" to SSI and SSDI beneficiaries that they may use to obtain rehabilitation and employment services. Most adult beneficiaries between the ages of 18-65 will get a Ticket, including transition-aged youth 18 or older. Service providers, called Employment Networks, work with Social Security and SSI beneficiaries to provide assistance designed to help with the transition to work.

With the reauthorization of IDEA (2004) and the emphasis on transition plans, school psychology professional organizations (i.e., APA Division 16 and NASP), school psychology trainers, and practicing school psychologists should be prepared to support the development of school psychology practice relevant to postsecondary transitions. Indeed, survey data about the roles and functions of school psychologists indicated that school-based practitioners spend considerably more time in special education–related activities as compared to past studies (Curtis, Lopez, Batsche, & Smith, 2006). School psychologists very likely will be called to develop, implement, and monitor measurable postsecondary goals related to training, education, and employment for secondary students' IEP and transition teams (Ulmer, 2005).

School psychologists can ensure goals are “based on the individual child’s needs, taking into account the child’s strengths, preferences, and interests” (IDEA, 2004) by conducting a comprehensive assessment (Levinson, 2004). A comprehensive psycho-educational evaluation can help determine the necessary supports, accommodations, and modifications needed for a student to thrive in a post-school setting. A comprehensive evaluation for students with IDD typically includes achievement testing, adaptive measures, cognitive assessments, and a review of background/behavioral information (e.g., observations, individualized education program [IEP] plans, medical information). Using the results of the psycho-educational evaluation, the school psychologist and the transition team can develop goals for post-school success. Appropriate data-based transition goals and instruction can increase the likelihood that existing and emerging skills are developed and behavioral or emotional problems are minimized in school or work settings (Jordan & Powell, 1995). School psychologists can focus on interventions

that improve “the academic and functional achievement of the child with a disability to facilitate the child’s movement from school to post-school activities” (IDEA, 2004).

Finally, school psychologists can monitor transition plan implementation so it remains a “results-orientated process” (IDEA, 2004). Fidelity (i.e., the extent to which delivery of services is delivered in the way in which it was designed to be delivered; Gresham, MacMillan, Boebe-Frankenberger, & Bocian, 2000) of the transition plans and interventions can be assessed via checklists outlining the steps of the transition procedure (e.g., intervention, planning). Intermittent consumer checklists can be used to verify the accuracy of intervention implementation and confirm the social validity of the intervention (i.e., Do the interventions continue to address goals and objectives related to the student’s post-school preferences?). Additionally, school psychologists and the transition team can identify and specify transition fidelity criteria (Mowbray, Holter, Teague, & Bybee, 2003). These criteria can be monitored through classroom and community-based observations, interviews with parents or staff delivering the services, surveys or interviews completed by individuals, or video-taped intervention sessions (Mowbray et al., 2003).

Proposed Role of School Psychologists in the Transition Process for Students with IDD

Reflecting on our field’s legal, ethical, and professional obligations, the author proposes that school psychologists should be more involved in the transition planning process for students with IDD. School psychologists can play a role in transition planning and implementation due to their graduate education in interpersonal skills, consultation services, data-based decision-making, academic, social and emotional interventions, and

systems-based delivery school psychologists (Deno, 2002; Ysseldyke et al., 2006). In particular, school psychologists can use their skills to address the five domains of transition services identified by Kohler's *Taxonomy for Transition Programming* (1996): Student-Focused Planning, Student Development, Family Involvement, Program Structure, and Interagency Collaboration. The five domains, originally identified in 1996 and reviewed and confirmed by Kohler in 2003, comprise a widely accepted framework for planning, implementing, and evaluating comprehensive secondary transition programs (Kohler & Field, 2003).

The National Secondary Transition Technical Assistance Center's (NSTTAC) organized 32 identified evidence-based transition practices under Kohler's five domains (see Table 3).

Table 3

NSTTAC Evidence-Based Practices categorized using Kohler's Taxonomy for Transition Programming

Kohler's Taxonomy Category	Evidence-Based Practices
Student-Focused Planning	Involving students in the IEP process
	Using the Self-Advocacy Strategy
	Using the Self-Directed IEP
Student Development	Teaching functional life skills
	Teaching restaurant purchasing skills
	Teaching employment skills using CAI
	Teaching grocery shopping skills
	Teaching home maintenance
	Teaching leisure skills
	Teaching personal health skills
	Teaching job specific employment skills
	Teaching purchasing using the "one more than" strategy
	Teaching life skills using CAI
	Teaching life skills using CBI
	Teaching self-care skills
	Teaching safety skills
	Teaching self-determination skills
Teaching banking skills	
Teaching self-management for life skills	

	Teaching self-management for employment
	Teaching self-advocacy skills
	Teaching functional reading skills
	Teaching functional math skills
	Teaching social skills
	Teaching purchasing skills
	Teaching completing a job application
	Teaching job-related social communication skills
	Teaching cooking & food prep skills
	Teaching employment skills using CBI
Family Involvement	Training parents about transition issues
Program Structure	Providing community-based instruction
	Extending services beyond secondary school
	Using Check and Connect
Interagency Collaboration	None

NSTTAC conducted a two-stage review of literature to identify evidence-based practices in secondary transition. In Part I, evidence-based practices based on experimental (single and group design) studies were identified (Test et al., 2009a). Test and his colleagues (2009a) identified 32 evidence-based practices based on quality indicator checklists for group (Gersten et al., 2005) and single-subject research (Horner et al., 2005) from a special issue of *Exceptional Children* published in 2005. Meta-analyses with clearly described search procedures and quantified results also contributed to the identification of evidence-based transition practices (see Test et al., 2009a).

In Part II, Test and colleagues reviewed correlational research to identify evidence-based predictors in secondary transition that were correlated with improved post-school outcomes in education, employment, and/or independent living (Test, Mazzotti, Mustian, Fowler, Korterling, & Kohler, 2009b). NSTTAC identified evidence-based practices via an electronic search of correlational studies related to post-school outcomes for students with disabilities; 16 practices were identified as predictors of post-school success (Test et al., 2009b). To be selected, studies had to have included predictor variables related to a secondary transition program or practice and outcome variables related to post-school education, employment, and independent living. The quality of evidence was assessed via a 13-item checklist for correlational research developed based on criteria from Thompson, Diamond, McWilliam, Snyder, and Snyder (2005).

NSTTAC, which provides assistance to government educational agencies, schools, and other stakeholders to implement evidence-based practices, policies, and procedures, identified these practices as key facilitators to post-school employment, education, and independent living success. Given that we know post-school outcomes are

highly dependent upon the quality of transition services that are available for young adults with IDD, school psychologists should make a concerted effort to utilize these evidence-based practices in their transition-related work (Howlin, Mawhood & Rutter, 2000; Moxon & Gates, 2001).

Student-Focused Planning. Student-focused planning under NSTTAC emphasizes the importance of student participation. Although student-centered teams include the student as a team member, research suggests few students with IDD actively participate in transition planning meetings, and rarely lead the discussion (Cameto et al., 2004). Test et al. (2009a) described student-focused planning as students' active participation in the educational planning process. Considering that federal special education policy (i.e., IDEA 2004) requires students' participation in IEP meetings when transition goals are discussed, school psychologists should encourage the student-centered transition team to include students and family member in all steps of the transition process. Effective transition planning should be a collaborative and synchronized process focused on providing integrated services; it involves preparation at the middle and high school level, the support of post-school service providers (e.g., community resources, adult agency services), and the creation and maintenance of a *student-centered* team (Getzel & deFur, 1997; Test et al., 2009a). Transition planning provides the opportunity for adolescents to learn about themselves and plan for their futures. This requires student involvement as an active, respected participant and preferably as a team leader (Wehman, 2006). As an advocate for the student, school psychologists can guarantee communication needs, meeting times, and language/terminology are reflective of student and family needs (Kohler, 1996). A

variety of supports have been demonstrated to increase student involvement. Fullerton and Coyne (1999) successfully used visual, social, and organizational supports to facilitate young adults' participation. Held, Thoma, and Thomas (2004) described one 17-year-old with autism who conducted his own transition meeting with the use of assistive technology. If students require augmentative or alternative communication (AAC), such as a picture exchange system, modified sign language, or a voice output device, school psychologists can structure the environment to allow for use of these devices (e.g., interpreter, technology support). If the student receives related services outside of the school day, school psychologists can suggest transition meeting times in the morning or via phone consultation. Students with IDD should be encouraged to participate fully, within the extent of their capabilities, in the transition-planning process because transition services are meant to enable them to pursue careers and lifestyles that meet their personal needs and preferences (Halpern, 1994; IDEA, 2004). School psychologists can utilize a strength-based perspective (i.e., emphasize the strengths and competencies of youths and their families; Jimerson et al., 2004) to maximize student involvement and visibility in the transition process. As an example, using a strengths-based perspective, if a student enjoys writing plays, the transition process can be conceptualized as a play, with the transition team serving as characters, the post-school goal serving as the setting, the transition steps as the plot, and the dialogue related to advocacy (e.g., the accommodations the student needs, the personnel he needs to contact). A strengths-based approach not only helps identify intervention needs, but also bolsters positive rapport when consulting and collaborating within a multi-disciplinary team (Rhee et al., 2001).

The reframing of assessment interpretation to highlight strengths also can empower students and families to take responsibility and navigate their own life experiences (Rhee et al., 2001). School psychologists can give and interpret assessments based on a model that stresses capacity building and resiliency as opposed to limitations and deficits. Identifying personal preferences, goals and needs can positively impact students' internalized motivation and self-determination (Prout, 2009). Traditionally, assessment practices identify students' needs based on a deficit model that "focuses on problems such as processing (difficulties), poor achievement, and social-emotional difficulties in order to prescribe intervention programs" (Jimerson et al., 2004, p. 10). However, a strengths-based assessment approach to school psychology (Jimerson et al., 2004; Rhee et al, 2001) and the inclusion of positive psychology fundamentals (Huebner & Gilman, 2003; Seligman & Csikszentmihalyi, 2000) advocate a shift away from fixing deficits towards building and expanding individuals' strengths (Seligman, 2002). School psychologists can help educators, parents, and students identify post-school goals using assessments to determine task preferences (Lattimore, Parsons, & Reid, 2006; Nuehring & Sitlington, 2003), social and communication strengths, and available resources and assets (Müller et al., 2003). Using the results of these assessments, school psychologists can then suggest necessary modifications and adaptations and implement targeted interventions (Hagner & Cooney, 2005). Such specialized interventions and instructions can prepare students during their secondary years by teaching the necessary skills needed in post-school roles and contexts.

Finally, quality of life (i.e., emotional, physical, and material well-being) measurements might be used to measure student satisfaction with the transition plan after

it has been implemented. Various scales for assessing quality of life for individuals with IDD are presented in Cummins (1997) and Townsend-White, Pham, & Vassos (2012). When evaluating the acceptability of the transition plan, school psychologists should consider whether the student with an IDD has opportunities to take reasonable risks and expresses life satisfaction in a manner comparable to his/her peers without disabilities (Wolfensberger, 2000). Additionally, they might ask questions about work environments, attitudes of peers, social relationships, community participation, and mental and physical well being (Prout, 2009). In this manner, the student's voice will be present before, during, and after plan implementation.

Student Development. In accordance with IDEA (2004) mandates, the IEPs of students with disabilities must include measurable postsecondary goals that are annually updated and based upon age-appropriate transition assessments, transition services, and courses of study supporting student postsecondary goals. Considering NSSTAC standards, transition instruction requires educators to be knowledgeable about a variety of teaching techniques and strategies and how to individually apply each to meet the strengths of the adolescent (Iovannone et al., 2003). Test et al. (2009a) suggested the following evidence-based predictors of post-school success when considering goal development: functional academics, community-based instruction (CBI), activities of daily living, social skills, leisure skills, personal management skills, vocational skills, and self-determination skills. In particular, student self-determination and self-advocacy should be actively developed (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Wehmeyer, Palmer, Soukup, Garner, & Lawrence, 2007; Wehmeyer & Palmer, 2003). Students who report higher self-determination fare better across multiple post-school

domains (e.g., employment, independent living, financial independence) than students who rate themselves low (Wehmeyer & Palmer, 2003). Self-determination has been linked to positive outcome in employment and independent living (Martorell, Gutierrez-Rechacha, Pereda, & Ayuso-Mateos, 2008; Wehmeyer & Palmer, 2003), recreation and leisure outcomes (McGuire & McDonnell, 2008), and quality of life and life satisfaction (Wehmeyer & Schwartz, 1998; Lachapelle et al., 2005; Nota, Ferrari, Soresi, & Wehmeyer, 2007; Shogren, Lopez, Wehmeyer, Little, & Pressgrove, 2006). Therefore, it is important that transition goals include self-determination as an outcome (Wehmeyer & Schwartz, 1998). In evaluating instruction and intervention efforts, school psychologists can administer pre- and post-measures of self-determination to the student (e.g., *The Arc's Self-Determination Scale*; Wehmeyer & Kelchner, 1995).

Students are often responsible for advocating for themselves in post-school settings (Williams & Palmer, 2004). Self-determination, and its components of self-advocacy and self-efficacy are crucial to academic, vocational, and social success (Wehmeyer & Schwartz, 1998). Self-determination is the capacity to make choices for oneself, initiate actions of one's choosing, set personal goals, and assume control over one's own life (Wehmeyer & Schwartz, 1998). Self-advocacy is an associated skill necessary to enact self-determination (Prout, 2009). It refers to an individual's right to have input in decision-making in all areas of daily life, including medical, public policy, educational, and financial decisions (Prout, 2009). Self-efficacy refers to an individual's belief in his or her ability to successfully engage in a specific behavior within a certain context (Powers et al., 2001). School psychologists can positively impact self-determination by working to improve students' choice-making, problem-solving,

decision-making and goal-attainment skills (Wood, Karvonen, Test, Browder, & Algozzine, 2004). Izzo and Lamb (2002) suggested the following strategies for developing self-advocacy skills and supporting student application of these skills: facilitating student-centered IEP planning meetings and self-directed learning models, increasing student awareness of their disability and needed accommodations, teaching and reinforcing students' internal locus of control and empowering parents as partners in promoting self-determination and career development skills. When looking specifically at student awareness of disability, if students have received self-determination instruction during their academic career, they may be more likely to initiate contact with their postsecondary school's disability services or an employer's human resources department to disclose their disability. They would know to approach professors or supervisors to indicate the accommodations they would need to be successful in the post-school setting. They might have the self-awareness to identify a safe place/person to go to to relax or regroup when feeling overwhelmed (Willey, 2000). Tools used in person-centered planning such as PATH (Planning Alternative Tomorrows with Hope; Pearpoint, O'Brien, & Forest, 1993), MAPs (Making Action Plans; Pearpoint, Forest, & Snow, 1993), and GAP (Group Action Planning; Turnbull & Turnbull, 1996) may be one method of delivering self-determination instruction and increasing self-advocacy skills. Person-centered planning is a way to identify a student's individual goals and to help students, families, and professionals craft plans that will support students as they look toward a productive future (National Center on Secondary Education and Transition [NCSET], 2004). A school psychologist using person-centered planning to assist a student with a post-school employment goal might bring together the transition team (and

other stakeholders), identify the student's strengths and skills, help the student label the necessary steps toward securing employment, and monitor the progression and completion of the identified steps. The transition team, along with the school psychologist, would identify one team member to help the student find an internship or job-shadowing opportunity. Another team member might help the student find appropriate transportation. Yet another team member might work with the student on interview skills (Amado & McBride, 2001). In this way, the school psychologist would employ a strengths-based model to encourage self-advocacy, self-determination, and self-monitoring skills by enabling the student to be involved in each facet of transition planning.

Another method for increasing self-determination is to work with the student and the family on self-advocacy skills through short-term, structured counseling (Clark, Olympia, Jensen, Heathfield, & Jenson, 2004). Specific learning outcomes that might be targeted during counseling include the skills needed to: (1) access resources, (2) communicate preferences, (3) set attainable goals, (4) manage time, (5) identify problems and solutions, (6) advocate for accommodations, and (7) develop greater self-awareness (Wehmeyer, Martin, & Sands, 1998). Table 4 offers an alternative outline school psychologists can use as a framework for developing an intervention program to support self-determination for students with IDD.

Table 4

Ten steps to becoming an effective self-advocate (modified from the Learning Disability Self-Advocacy Manual by Scott L. Crouse, Ph.D.)

Step	Recommendation
Step 1: Accept your disability	Before you can advocate for yourself, you have to admit to yourself that you really do have a learning disability. You aren't dumb or lazy, but you do have some difficulties and may need some special help in order to be successful.
Step 2: Admit your disability to others	You cannot be a successful self-advocate if you continue to hide your difficulties from others. Be honest about your learning disability; you can't expect teachers to provide appropriate accommodations if they don't know about your difficulties.
Step 3: Understand your learning style	Make sure that you are treated as much as possible like any other student who does not have a disability. Attend your IEP meetings and get to know your school psychologist. School psychologists can offer you some ideas that they have about your learning disability, but only you can decide what makes the most sense to you. If you don't understand how you learn, you can't ask for accommodations that you really need. Together, the two of you can work to understand your IEP goals and objectives and determine ideas for goals, accommodations and modifications. Remember to speak up if you disagree.

- Step 4: Realize how "other issues" might interfere with your self-advocacy
- Low self-esteem, communication difficulties, and attentional problems might interfere with your ability to advocate for yourself. As with your learning disability, you need to be open and honest about any of these related problems before you can be an effective self-advocate.
- Step 5: Know what you need
- You will need to constantly rethink the accommodations and possibly come up with some ideas of your own to ensure that the accommodations listed in your IEP meet all of your possible needs. Understand what accommodations *you* need in a classroom and know how to request them
- Step 6: Anticipate your needs in each class
- Don't wait until the final exam to start thinking about accommodations. Right from the start of each class you should be thinking about how you might be able to learn the material better. Begin talking with your teachers about accommodations as early as possible.
- Step 7: Know your rights and responsibilities
- You need to understand and respect the laws that support your rights. *The Americans with Disabilities Act (ADA)* guarantees equal opportunity and appropriate accommodations for all individuals with disabilities in employment, public accommodations, transportation, telecommunications services and state and local government services. *Section 504 of the Rehabilitation Act* guarantees the right to an appropriate

education for any student with a disability, If your disability interferes with any services, activities, or programs in school that is available to anyone else, you have the right to appropriate accommodations. *The Individuals with Disabilities Education Act* entitles you to any special education services necessary so that your identified disability does not keep you from getting an appropriate education. It ensures an evaluation is given if you are suspected of having a disability, services are provided for you if you have a "qualified" disability, and an Individual Education Plan (IEP) is written for you annually.

Step 8: Be willing to compromise

Be ready to compromise in order to get some accommodations. You may also need to “prove” to some teachers that you really need help and are not just being lazy.

Step 9: Know where to go for support

Sometimes even an effective self-advocate needs support. Find someone who understands your learning disability and can provide support (or can even advocate for you) when needed.

Step 10: Plan for the future

To really advocate for yourself you need to think about where you want to be in one, two, five, or ten years. When you have a very clear plan for the future, you will be better able to see the reason for your education today. Considering employment: identify 3 people who could help you start planning for high school and support you when things get tough, find out if your

career choices require college, list 3 jobs you might see for yourself and 3 activities you would like to avoid. Considering education: determine what kinds of classes you think will be hard for you and what accommodations you might need, find out what support might be available to you in college or vocational/technical school, note special talents or abilities you would like to be able to use in your career.

In addition to self-determination skills, personal management skills are essential in student development (Izzo & Lamb, 2002; Test et al., 2009a). Self-determination skills and personal management skills both fall under the domain of executive functioning. Executive functioning has been described as “the heart of all socially useful, personally enhancing constructive and creative activities” (Lezak, 1982); it encompasses working memory, attention, and inhibitory control for the purposes of planning and executing goal-directed activity (Blair, 2002). Goal-directed behavior and inhibitory control are particularly important to transition success for students with IDD. Lack of these skills often precludes attainment of independence and community integration (Selznick & Savage, 2000). Personal management skills, such as planning, organization, inhibition, working memory, and self-monitoring, often require explicit instruction of organizational strategies for students with IDD because of executive functioning challenges (Clark, Prior, & Kinsella, 2002; Moxon & Gates, 2001). Difficulties in the area of executive functioning can manifest in many different ways for students with IDD. Some students

may struggle with decision-making, and some may have difficulty regulating their behavior in a socially appropriate manner. Some students may have difficulty with problem solving whereas others may have difficulty maintaining organization for the purpose of completing a goal. School psychologists can provide cognitive-behavioral strategies, such as instruction on positive self-talk, coping skills and communicating feelings to increase personal management/executive functioning skills (Bailey, 2001; Diamond & Lee, 2011). Because students with IDD often struggle to understand and identify the functions of their behavior, cognitive-behavioral strategies that enable reflective thinking may help to decrease any behavioral/emotional outbursts and increase communication, memory, and organization skills (Crawley, Lynch, & Vannest, 2006). To help students utilize reflective thinking to increase problem-solving skills, school psychologists could work with students to brainstorm personal worries related to post-school goals, prioritize these worries from the most to least troubling, identify one source of concern to work on each week, identify possible remedies, and choose an option most likely to reduce their level of concern. Another strategy for increasing the personal management capacity of students with IDD is to teach self-monitoring strategies (Coughlin, McCoy, Kenzer, Mathur, & Zucker, 2012). Self-monitoring strategies include mnemonic devices, assignment checklists, personal planners, and visual schedules of daily routine (Ozonoff, Dawson, & McPartland, 2002). Students with IDD who develop their personal management skills are more likely to be independent and socially appropriate without caregiver supervision.

Another facet of student development that should not be ignored is the nurturing of social skills. Adjusting to the social demands (e.g., interpersonal interactions,

relationship concerns) of the post-school setting (e.g., college, workplace, group home) is often the most challenging area for many students with IDD (Welkowitz & Baker, 2005). For transitioning youths with IDD who are particularly interested in post-school employment or education, learning specific goal-related skills is necessary; but interpersonal skills that help foster positive peer interactions are just as important (Fast, 2004). For example, vocational success is not only contingent on completing job duties, but also is greatly impacted by the social aspect of employment according to self and employer reports (Hurlbutt & Chalmers, 2004; Müller et al., 2003).

Adolescents with IDD, similar to their peers without disabilities, are interested in developing and maintaining friendships (Marks, Schrader, Longaker, & Levine, 2000). In light of IDEA's mandates (2004), school psychologists should take students' personal preferences into consideration. They can help educators and families implement social skills training, such as mastery experiences (i.e., students' recognition of skill attainment), vicarious experience (e.g., observing others model a skill), verbal persuasion (e.g., providing information students interpret and evaluate), and emotional regulation (e.g., monitoring how students feel before, during, and after engaging in a task) in the secondary setting to increase friend-making abilities and mitigate potential social isolation and exploitation by others (Margolis & McCabe, 2006). To further increase full community integration and social fulfillment, school psychologists may need to explicitly teach social skills (Hendricks & Wehman, 2009). Researchers have indicated a number of interventions that can be used to improve social functioning, including peer-mediated approaches (Farmer-Dougan, 1994; Haring & Breen, 1992), self-management strategies (Koegel & Frea, 1993), *Social Stories* and *Comic Strip Conversations* (Rogers & Myles,

2001), audiotaped social scripts (Stevenson, Krantz, & McClannahan, 2000), and virtual environments (Moore, Cheng, McGrath, & Powell, 2005; Parsons, Leonard, & Mitchell, 2006; Parsons, Mitchell, & Leonard, 2004).

Family Involvement. As the student should be involved in all aspects of the transition planning process, so should the student's family. NSTTAC standards in this domain encourage family involvement, training, and empowerment. Test et al. (2009a) noted that parents should be educated in transition issues. It is necessary that the entire transition team, including the student and the family, is aware of the student's constellation of strengths and needs in order to advocate for support in the post-school setting. Just as the passage to adulthood can be a challenging time for adolescents with disabilities, it can be challenging and confusing for the family as well (Schall & Wehman, 2008; Sitlington & Clark, 2006). Parents may need to be educated about federal mandates, similar to those found in Table 2 (previously presented). Families may also need explicit instruction regarding the stages of transition planning (e.g., transition assessment, transition goal development, transition services). School psychologists might need to direct families to websites, such as those described in Table 5, so that the families can learn more about the transition process and the options and rights afforded to them.

Table 5

Transition Resources for Dissemination

Site	Resources
Division on Career Development and Transition (www.dcdt.org); Council for Exceptional Children (www.cec.sped.org)	<ul style="list-style-type: none"> • Shares information about career development and transition pertinent to exceptional children through newsletters, curricula, training materials, resource guides, reports, brochures, journal articles, books, web sites, videotapes, and other resources.
FYI Transition (www.fyitransition.com)	<ul style="list-style-type: none"> • Topics for educators/families (e.g., how to support self-determination, postsecondary options, ideas for self-employment, definitions and terms) • Topics for student awareness (e.g., finances, independent living)
Institute on Community Integration (ici.umn.edu/index.php?topics/view/91)	<ul style="list-style-type: none"> • Transition Services Program Area, working to enable schools and community service agencies to better prepare youth with disabilities for life as productive, responsible adults in the community. • Helps state agency and local school districts via Interdisciplinary Pre-service and Continuing Education; Technical Assistance;

<p>The Institute for Innovative Transition (www.nytransition.org)</p>	<p>Research; and, Dissemination</p> <ul style="list-style-type: none"> • Addresses transition issues for individuals with developmental disabilities • Resources for educators/families/individuals (e.g., information dissemination, technical assistance, training and professional development)
<p>National Center on Secondary Education and Transition (www.ncset.org)</p>	<ul style="list-style-type: none"> • Coordinates national resources, offers technical assistance, and disseminates information related to secondary education and transition for youth with disabilities in order to create opportunities for youth to achieve successful futures
<p>National Collaborative on Workforce and Disability (www.ncwd-youth.info)</p>	<ul style="list-style-type: none"> • Experts in disability, education, employment, and workforce development provide quality, relevant information for professional and youth development as related to employment
<p>National Secondary Transition Technical Assistance Center (www.nsttac.org)</p>	<ul style="list-style-type: none"> • Online transition learning center for professionals (e.g., evidence-based practices) • Capacity building for transition education and services (e.g., lesson plans for student developments, evidence-based skills)

Think College
(www.thinkcollege.net)

- Online postsecondary education learning center for professionals, parents and students (e.g., getting started advice for students, transition checklist for parents, transition assistance for professionals, descriptions of current postsecondary programs in U.S)

Transition Solutions
(transitionsolutions.org)

- Alliance of researchers, educators, and technical assistance providers in the areas of transition systems change, education reform, postsecondary education, workforce preparation, and team and leadership development.
- Helps state agency and local school districts (e.g., use data to meet transition requirements, create a shared plan for action, map and align resources)

U.S. Departments
(www2.ed.gov/about/offices/list/ocr/transition.html;
www.dol.gov/odep)

- Office for Civil Rights
 - Office of Vocational Rehabilitation (VR): state-based
 - United States Department of Labor
-

If English is not the primary language spoken at home, school psychologists must ensure materials are provided in the preferred language and an interpreter is available.

Additionally, the school psychologists can also remind the family of setting-specific factors that can influence transition plans and outcomes. For example, for students and families seeking postsecondary education, the family must consider the type and size of college the student wishes to attend, housing and transportation arrangements, when and how to disclose the student's disability, and strategies to assist in adjusting to the college environment (Adreon & Durocher, 2007). School psychologists should talk frankly with the family about independent living skills (e.g., ability to use the phone, cooking, e-mail, self-advocacy), sensory issues (e.g., noise level, taste, smell, light) and daily living skills (e.g., personal hygiene, organization, time management) that could affect success in the postsecondary setting and encourage them to account for these skills when planning the transition strategy (Adreon & Durocher, 2007; Coulter, 2003; Williams & Palmer, 2004).

Program Structure. Considering NSTTAC standards in regard to program structure, there two recommended evidence-based practices, CBI and extending services beyond secondary school, which should be included when implementing transition services (Test et al., 2009a). In regard to CBI, which is particularly useful for vocational goals, school psychologists should consult with teachers, caregivers, and students to determine the "best fit" for job training. School psychologists can implement strategies designed to increase employment retention by matching the student to a complementary job (via competitive work experience and vocational training) and suggesting behavior management strategies to reduce inappropriate behavior (e.g., aggression, self-injury, and

property destruction) in the work setting (Berkman & Meyer, 1988; Kemp & Carr, 1995; Smith, 1994; Smith & Coleman, 1986). Other employment objectives for school psychologists to consider include post-school goals targeted toward teaching students with IDD how to navigate daily work-related activities. For example, school psychologists can implement interventions aimed at using the Internet (e.g., searching for employment, completing on-line application forms), increasing familiarity with money (e.g., counting change, creating a budget), and increasing familiarity with the work environment (e.g., understanding workplace routines and expectations, recognizing vulnerable or at-risk situations, asking for help) (Cooney & Hay 2005; Winn & Hay, 2009). Learning opportunities for students with IDD should be provided in a variety of settings (e.g., special education classroom, general education classroom, and community settings) to maximize generalization and sustainability of intervention outcomes (Wehman & Kregel, 2004). Planning multifaceted transition objectives helps negate poor employment outcomes by helping students with IDD learn valuable work skills, create strong work ethics, and develop relationships prior to graduation (Targett, 2006).

In regard to extending services beyond secondary school, school psychologists might engage with a variety of adult service providers (e.g., Disability Support Services for postsecondary education sites, Vocational Rehabilitation offices for employment sites) for a period of time after the student leaves secondary school. School psychologists can disseminate information about the goals, accommodations, and interventions to pertinent post-school personnel so knowledge transfer is maximized (Martinez, Conroy, & Cerreto, 2012). Consultation regarding the transition plan might include establishing communication between the family and adult service provides, and discussing steps to

maintain support services from secondary school to post-school settings. To aid continued evaluation of the effectiveness of the transition plan, school psychologists can provide parents and adult service providers with a variety of methods for monitoring transition goals (e.g., goal attainment scales for evaluating individual transition goals, adaptive behavior scales to measure outcomes). For example, school psychologists might collaborate with post-school professionals, or the family, to develop a transition checklist to help monitor and follow up on the student's transition goals (Lillenstein et al., 2006). Additionally, school psychologists could offer a workshop to train family members or relevant personnel to help them collect data to determine the effectiveness of transition services (Lillenstein et al., 2006).

Interagency Collaboration. The transition process should utilize an interdisciplinary team approach to maximize school and community resources to bolster the chances for post-school success for students with IDD (deFur, 1999; Stroebel, Krieg & Christian, 2008); school psychologists should be a part of the team. While interagency collaboration is widely endorsed and considered a key factor in what happens to students with disabilities after high school, there is limited research on interagency collaboration between schools, communities, and adult service providers and their impact on student outcomes (Landmark, Ju, & Zhang, 2010; Test et al., 2009b; Test, Fowler, Kohler, & Kortering, 2010). Most of the literature describes essential elements, strategies, or functions of successful interagency teams. Currently, NSTTAC does not identify any evidence-based practices regarding interdisciplinary collaborations. However, there are strategies that school psychologists can consider when trying to create and work within an interdisciplinary transition team. For example, a school psychologist could invite

representatives from adult education programs, job services agencies, community leaders, and community recreation centers to participate in the transition team (National Dissemination Center for Children with Disabilities [NICHY], 2010). If a student is considering a postsecondary goal, a school psychologist could encourage the transition team to communicate frequently with higher education institutions during transition planning. Communication between the secondary and postsecondary schools to address educational transition goals and services increase the likelihood of postsecondary education success (Hart, Grigal, & Weir, 2010). If the student has a post-school employment goal, school psychologists might open communication with community organizations and businesses to find internships that incorporate integrated or supported employment (Luecking & Gramlich, 2003; Wehman, Inge, Revell, & Brooke, 2007). Community supports are necessary to ensure students with IDD who wish to work are given opportunities for apprenticeships (deFur, 1999). School psychologists can encourage the implementation of accommodations and support by creating pathways of communication between the transition team and post-school sites. Also, school psychologists should advocate for parents and students to be actively involved in the transition team. Parental expectations for students can positively impact attainment of post-school goals (Carter, Austin, and Trainor, 2012).

To further support interdisciplinary collaboration, the transition team should include professionals from different disciplines to work together to create an effective transition plan. Each discipline can contribute to the transition plan: occupational therapy designed to improve daily living activities and provide strategies for managing sensory abnormalities, speech-language therapy to ameliorate language and social deficits,

assistive technology to support and enhance functional capabilities and improve communications (Hendricks & Wehman, 2009), and mental health services needed to address any psychiatric comorbidity (Tsatsanis, Foley, & Donehower, 2004). School psychologists might consider implementing elements of effective interagency teaming strategies, such as those found in *Essential Tools: Interagency Transition Team Development and Facilitation* (Stodden, Brown, Galloway, Mrazek, & Noy, 2004), for recruiting team members, establishing good team practices, and monitoring and evaluating team process/progress.

Stroebel et al. (2008) suggested a two-team approach – internal and external – to ensure the success of transition planning. The internal team would consist of school personnel whose role is the development and implementation of the transition-focused IEP, while the external team would be comprised of school representatives, adult service providers and community members (e.g., business leaders, association leaders, clergy) (Stroebel et al., 2008). Both teams would work collaboratively to develop goals, objectives, and strategies that would maximize resources, knowledge, and expertise to create new opportunities for students with disabilities to participate in a variety of post-school contexts (Stroebel et al., 2008). The internal team would develop a structured individualized plan, taking into consideration the student's strengths and interests that would facilitate entry into post-school opportunities. The external team would gather community commitment and identify resources students could use as they begin their post-school transfer process. This two-pronged approach can provide a system of care and support that carries the student from school to post-school contexts.

School psychologists should be involved in both teams and consult not only with the school staff, but also with community stakeholders to guarantee that transition services are initially offered and also faithfully implemented (Levinson, 2008). School psychologists should also collaborate with special education teachers, parents, and related service providers to determine the most appropriate and needed interventions for post-school success for students with IDD (Lillenstein et al., 2006). School psychologists can help define the roles and responsibilities of the internal and external team members, remind team members of the need for data-based objectives and accommodations/modifications, and explain the interventions necessary for skill development.

Conclusion

Postsecondary transition service is an often-overlooked area in school psychology research and practice. Previous studies examining the role of school psychologists in transition planning suggested that school psychologists are interested, but relatively uninvolved in transition activities (Lillenstein, 2002; Staab, 1996; Ulmer 2004). The author recognizes that all school psychologists may not have skills in the area of transition services and some school psychologists may feel uncertain about undertaking new professional responsibilities after being primarily linked to assessment (Bramlett et al., 2002). However, school psychologists have an ethical, legal, and professional obligation to be involved in evidence-based transition services for students with IDD.

Leaders in the field of school psychology have been calling for a change in the roles and responsibilities of school psychologists for more than 50 years (Bradley-Johnson & Dean, 2000; Curtis et al., 2002; Reschley, 2000). Although participating in

transition services is not an explicit part of many school psychologists' job description, it is an avenue for role expansion. As part of the transition process, school psychologists can directly affect the well-being of children and adults with IDD and their families. School psychologists can become an integral part of the transition process by serving as the bridge between families, schools, and communities.

Moreover, the most recent reauthorization of IDEA (2004) requires the implementation of a transition plan by age 16. School psychology, which is traditionally influenced by special education law, must be prepared to engage in transition-related activities. The school psychologist's toolkit already includes interventions, assessments, and strategies for resource dissemination; it is a slight, but vital, shift to consider those skills in a transition framework.

However, the most compelling argument for the involvement of school psychologists in transition planning is not the skills that we have to offer, or the legislation that dictates our role, but the ideals that the profession strives to uphold. Psychologists "respect the dignity and worth of all people, and the rights of individuals...Psychologists are aware that special safeguards may be necessary to protect the rights and welfare of persons or communities whose vulnerabilities impair autonomous decision making" (APA, 2010). As school psychologists we should work to benefit all our students and protect their rights, including our students with IDD.

Developing and implementing transition services for students with IDD requires a team of professionals to guarantee that student needs are being met. School psychologists can play a beneficial role in the multi-disciplinary transition team (deFur, 1999). School psychologists are well positioned to proactively engage school programs, adult service

agencies, and natural supports within the community as a result of their comprehensive graduate preparation (Staab, 1996). They have the skills to enhance the transition process by developing and refining transition objectives and providing information regarding transition services. By considering the individual students' needs, strengths, limitations, preferences, and interests, school psychologists can positively impact post-school outcomes. They can ensure transition objectives not only reflect student aspirations, skills, strengths, and cultural values, but also are aligned with IDEA (2004) requirements for a results-oriented and outcomes-driven process informed by multiple methods of data-collection. By remembering our legal, ethical, and professional obligations, school psychologists can work with students with IDD to facilitate their independence and attainment of post-school goals. School psychologists can help provide needed resources to students with IDD to help them move past the challenges of poor post-school opportunities (O'Brien & Daggett, 2006; Schall, Cortijo-Doval, Targett, & Wehman, 2006) and societal (e.g., discrimination, denial of accommodations) and personal (e.g., difficulties in social and communication skills) barriers to post-school placement (Powers et al., 2007). If school psychologists wish to embody these professional, legal, and ethical mandates that guide the profession, the field as a whole must demonstrate greater commitment to and involvement in young people with IDD' experiences and success beyond K-12 settings (Levinson, 2008).

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CHAPTER 2

PERCEPTIONS AND ROLES OF SCHOOL PSYCHOLOGISTS IN TRANSITION SERVICES FOR STUDENTS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

All education personnel, including school psychologists, should think beyond high school when developing educational programming that will allow youth with intellectual disabilities (ID) to assume productive and responsible adult roles. Transition services help students with ID adapt to life after secondary school in a variety of areas, including employment, independent living, post-secondary education, and self-advocacy (Grigal et al., 2001; Hart, Mele-McCarthy, Pasternack, Zimbrich, & Parker, 2004). High-quality transition services refer to a person-centered, results-oriented process that is focused on improving the academic and functional achievement of the student to facilitate their movement from school to post-school activities (Individuals with Disabilities Education Act [IDEA], 2004, §300.43(a)). Developing and providing effective transition services for students with disabilities is a complex, but necessary, undertaking for school personnel and families (Ulmer, 2005). In comparison to their peers without disabilities, individuals with disabilities are less likely to participate in postsecondary education (Newman et al., 2011; Stodden & Whelley, 2004) and more likely to be unemployed and live in poverty (National Council on Disability, 2000). Students with ID have been identified as one of the disability categories most vulnerable for poor post-school outcomes (Newman et al., 2011).

Students with disabilities, particularly those with an ID, often face challenges in their transition to adulthood because they often leave high school without adequate academic and adaptive skills (Blackorby & Wagner, 1996; Phelps & Hanley-Maxwell,

1997; Sanford et al. 2011). The National Longitudinal Transition Study (1985-1993) and the National Longitudinal Transition Study-2 (2000-2009; NLTS-2) tracked the experiences of 13 to 16 year olds with disabilities throughout high school and into adulthood. Findings from the NLTS-2 indicated that students with ID were the least likely of all the disability categories to enroll in higher education institutions, live independently, and exhibit financial stability (Newman et al., 2011). Furthermore, the percentage of young adults with ID engaged in paid employment, postsecondary education, or job training since leaving high school remains lower than same-age peers in the general population (Newman et al., 2011). However, a comparison of the results from the two longitudinal research studies suggests that post-school outcomes for students with ID are slowly improving. Data from NLTS-2 showed a modest (21%) improvement in high-school completers' employment and post-secondary education participation for students with disabilities (Newman et al., 2011). One factor that may have contributed to improved post-school outcomes was effective transition services (Grigal, Dwyre & Davis, 2006; Levinson & Palmer, 2005).

Research regarding the specific intersection of school psychology, transition services and the ID population is scant. Few studies have explored the role of school psychologists in transition services for students with disabilities despite researchers and policymakers proposing prospective roles for school psychologists in the transition process (Levinson, 1998). Even fewer studies have investigated the involvement of school psychologists in postsecondary transition planning for students with an ID, particularly since the reauthorization of IDEA 2004. IDEA (2004) defines ID as a disability originating during the developmental period, and characterized by significant

limitations in intellectual functioning and in adaptive behavior. Intellectual disability is the most common developmental disability; approximately 6.5 million people in the United States have an ID (The Arc, 2009). More than 545,000 children (ages 6-21) have some level of ID and receive special education services in public school under this category in IDEA. The U.S. Department of Education (2010) reports 1 in every 10 children who receive special education services has some form of ID.

Often school psychologists have knowledge and skills that are relevant to the transition process for students with ID, such as data-based decision-making, familiarity with interventions for academic, social and life skills, family-school collaborative and consultative services, and research and program evaluation (Christenson, Reschly, Appleton, Berman, Spangers, & Varro, 2008; Osher et al., 2008). These competencies, stipulated by the National Association of School Psychologists (NASP) *Standards for Graduate Preparation of School Psychologist* (2010), are proficiencies many school psychologists already possess that can be applied to transition service planning, implementation and evaluation. School psychologists can offer family support, behavioral and instructional consultation, psychological and psycho-educational assessments, and behavioral interventions (Staab, 1996; Lillenstein, 2002; Ulmer, 2004). However, in multiple studies, the majority of school psychologists reported feeling unprepared to perform transition-related tasks (Lillenstein, 2002, Staab, 1996; Ulmer, 2004).

Theory of Planned Behavior and Knowledge, Attitudes, and Behaviors in Transition Activities for Students with ID

When considering school psychologists' involvement in transitions services for students with ID, the Theory of Planned Behavior (TPB; Ajzen, 1985) might be used to understand the relationship between knowledge, attitudes and behavior. TPB posits that an individual's beliefs (e.g., acquired knowledge, past experiences) play a role in shaping attitudes, which in turn influence the individual's behavioral practices (Ajzen & Madden, 1986; Madden, Scholder Ellen, & Ajzen, 1992). Indeed, attitudes are formed based on knowledge and familiarity of the given topic (Glasman & Albarracin, 2006). Those attitudes, in turn, predict behavior (Glasman & Albarracin, 2006). Table 6 presents a brief definition of the concepts included in TPB.

Table 6

TPB Terminology

Concepts	Definition
Beliefs about Behavior	An individual's perception of whether a particular behavior should be performed.
Attitude toward Behavior	An individual's positive or negative evaluation of a particular behavior.
Behavioral Outcome	An individual's performance of a behavior.

Figure 1 depicts the theorized action of TPB: school psychologists' beliefs regarding students with ID are thought to influence their personal attitudes and behavioral outcomes (i.e., service delivery) in proportion to the strength of the beliefs (Fishbein & Ajzen, 1975). Behavioral outcomes, once performed, become past experiences and further inform beliefs (Montano & Kasprzyk, 2008).

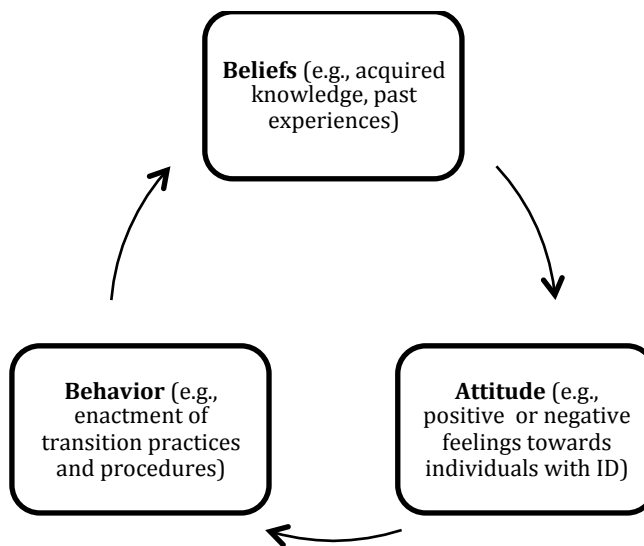


Figure 1. Model of TPB applied to transition services for students with ID

Although TPB has not been applied to the study of school psychologists' knowledge, attitudes, and behavior toward students with ID, the theory provides a framework in which to assess beliefs and behavioral outcomes of school psychologists regarding transition services for this group of students.

Belief's contribution toward attitude and behavior. In TPB, beliefs reflect how an individual perceives a behavior and how likely he or she is to perform a behavior (Ajzen, Joyce, Sheikh, & Cote, 2011). An individual's beliefs toward a task (i.e., transition services) or a group of people (i.e., students with ID) are based on the informational foundation the individual has (Ajzen & Madden, 1986). This foundation is comprised of knowledge of and past experiences in a particular topic. In essence, knowledge and experience build an individual's belief systems, feed into personal attitudes, and impact how the individual will perform on the job (Ajzen, 1985; Fagan & Wise, 2000).

Past experiences. TPB suggests that if a person has experience performing a behavior, that experience plays an important role in shaping beliefs and determining whether the person will engage in the behavior again (Montano & Kasprzyk, 2008). Previous experience with students with disabilities may be a primary factor impacting special educators' attitudes and behaviors toward students with disabilities (Parasuram, 2006). A number of studies have established the link between educators' acceptance of children with disabilities and their (a) attitudes toward inclusion and (b) ability to promote student success in inclusive settings (Brownlee & Carrington, 2000; Forlin, Douglas, & Hattie, 1996; Scruggs & Mastropieri, 1996; Ward, Center, & Bochner, 1994). In multiple studies, educators who experienced systematic contact with people with disabilities generally endorsed positive engagement with and attitudes toward people with disabilities (Beattie, Anderson, & Antonak, 1997; Stella et al., 2007). Interestingly, exposure could be either direct (e.g., taught by a guest speakers with a visible disability, students with disabilities spending a day engaging in activities with pre-service teachers) or indirect (e.g., viewing videos of people with disabilities depicting positive portrayal). This finding about the influence of direct and indirect exposure suggests that graduate coursework or professional development could positively impact school psychologists' perception of students with ID by simply including videos, case studies, and other information about students with disabilities.

Knowledge. TPB suggests that behavior-specific information, or knowledge, is much more pertinent than general knowledge in a behavioral domain (Ajzen, Joyce, Sheikh, & Cote, 2011). Coursework in special or inclusive education may have a positive effect on educators' attitudes (Beattie, Anderson & Antonak, 1997; Carroll, Forlin &

Jobling, 2003; Lambe & Bones, 2006; Oulette-Kuntz et al., 2003), behaviors, and sense of efficacy (Lancaster & Bain, 2010).

As Fagan and Wise (2000) acknowledged, training has a major impact on school psychologists' job functioning. In previous studies, school psychologists reported aspiring to be more involved in transition services; however, the same research also indicated that most school psychologists felt inadequately prepared in the area of transition planning for students receiving special education services (Lillenstein, 2002; Staab, 1996; Ulmer 2004). Shepard (1982) conducted a national survey of 297 practicing school psychologists and found that the majority (56.1%) of survey respondents indicated that they wanted more formal training in the area of transition. Lillenstein (2002), in his survey of 125 Pennsylvania secondary school psychologists and 66 transition coordinators, reported that lack of training in and awareness of transition services contributed to school psychologists' limited transition participation. On-site work experiences (e.g., collaborative work among colleagues) and self-initiated professional learning (e.g., books, articles, workshops, and seminars) were the primary sources of knowledge regarding transition services. Pre-service training was consistently noted to be the least likely source of transition knowledge in multiple transition-related studies due to the absence of transition content in graduate coursework (Lillenstein, 2002; Staab, 1996). Ulmer (2004) corroborated the importance of training in his study of 534 practicing school psychologists' involvement in transition activities. Ulmer (2004) found that training was the strongest predictor ($\rho_{TI} = .57; p < .05$) of school psychologists' involvement in postsecondary transition services for students with disabilities. In other words, school psychologists who felt that they had adequate training and preparation in

the area of transition services were more likely to participate in transition activities related to assessment, program planning, and evaluation.

This pattern of “more knowledge = more action” is seen across disciplines. The special education transition literature has indicated that secondary special educators feel poorly prepared to address the majority of transition needs of their students (Prater, Sileo, & Black, 2000; Wolfe, Boone, & Blanchett, 1998). In a survey conducted by Murray, Lombardi, and Wren (2011), university staff who reported receiving some form of prior training also reported greater scores on general knowledge and sensitivity toward university students with disabilities. Furthermore, the staff members who had previously participated in disability-related workshops and coursework reported the most positive attitudes, followed by staff members who had participated in other informal forms of professional learning (e.g., reading books and articles or visiting websites) (Murray, Lombardi, & Wren, 2011). Sharma, Forlin, and Loreman (2008) evaluated the effect of training received as part of either single-subject or infusion (inclusion information is imbued into all subjects studied) programs on 603 pre-service teachers from Australia, Canada, Hong Kong and Singapore. In their pre-/post-test comparisons, the researchers found significant improvements in participants’ attitude toward and concerns about inclusion and sentiments regarding work with students with disabilities across participants in all countries. In one of the only studies to evaluate teacher perceptions of implementation of transition activities, Knott and Asselin (1999) found that teachers who reported that they had an adequate transition knowledge base were more likely to implement effective transition-related activities than teachers who were unformed about transition.

School psychologists who receive focused training regarding students with ID may evidence similar positive knowledge and attitudes toward this group. Similarly, school psychologists who have greater knowledge of transition services may be more likely to perform transition tasks than their counterparts who lack content knowledge. Conversely, a possible deterrent to transition participation may be the lack of knowledge school psychologists report having about individuals with ID and the services they need. Whether in the field of school psychology or special education, a key facilitator to service delivery (e.g., therapeutic services, transition-related activities) is knowledge in the said service delivery model (Atkinson, Squires, Bragg, Muscutt, & Wasilewski, 2013; Ulmer, 2005).

Attitudes and service delivery. TPB has been applied to the study of attitude and behavioral change in schools to predict teachers' attitudes and willingness to integrate special education students in their classes (see Marino-Driscoll, 1997; Stanovich & Jordan, 1998). Negative teacher attitudes have been documented to adversely influence the educational experiences and opportunities offered to students receiving special education services (Brophy & Good, 1974; Cook, 2001; Silberman, 1971; Suban & Sharma, 2005). Conversely, favorable teacher attitudes toward inclusion of students with disabilities have been identified as the strongest predictors of success or failure of inclusion programs (Avramidis, Bayliss, & Burden, 2000; Avramidis & Norwich, 2002). Similarly, school psychologists' desire to provide services (e.g., mental health services, transition services) has been noted to facilitate delivery of said service (Suldo et al., 2010; Ulmer, 2005). In the case of transition participation, Ulmer (2004) noted a moderate relationship (path coefficient of 0.41) between attitude variables (e.g., transition

appropriateness, professional interest in transition activities) and school psychologists' transition involvement; those who had negative attitudes or perceptions toward transition services were less likely to participate in transition-related activities than those who had positive attitudes. In other words, attitudes toward transition services have been found to influence school psychologists' participation in transition-related activities (Ulmer, 2005). Multiple researchers have documented that school psychologists reported decreased engagement (Levinson, 1990; Reschly & Wilson, 1995) and underutilization of their services (Lillenstein, 2002; Staab, 1996) in the post-secondary transition process.

Negative attitudes and beliefs of professionals working with individuals with ID can have a detrimental impact on provision of professional services and supports (e.g., service accessibility, the quality of service provision, clinical interventions and consequent therapeutic outcomes) (Chaplin, 2004; Edwards, Lennox, & White, 2007; Paris, 1993). Discrimination toward individuals with ID, which often results in poorer treatment, rejection, and devalued roles within society (Corrigan et al., 2003), has been cited as one of the potential barriers to the delivery of adequate services to this population (Gill, Kroese, & Rose, 2002). Discrimination toward individuals with ID may be evidenced through the lack of services offered (Jahoda & Markova, 2004; Siperstein, Parker, Noris, & Widaman, 2011) and the limited number of employment and choice making opportunities (e.g., job options, living arrangements) made available (Wehmeyer & Bolding, 1999). Moreover, discriminatory behaviors lead to the lack of inclusion and social acceptance of persons with ID within their own communities as well as in the broader society (Jahoda & Markova, 2004).

In light of the role educators' attitudes play in determining educational practices toward a child with a disability (Avramidis et al., 2000; Avramidis & Norwich, 2002; Sharma, Moore & Sonawane, 2009), the author chose to investigate school psychologists' attitudes as they relate to the provision of transition services for students with ID. Given previous research regarding discrimination toward individuals with ID, school psychologists' attitudes seem likely to impact their participation and performance in transition tasks (Jahoda & Markova, 2004; Siperstein, Parker, Noris, & Widaman, 2011).

Barriers to school psychologists' involvement in transition services. Studies have demonstrated that transition services have the potential to increase students' access to integrated employment, education, and social activities (Hart et al., 2004; Grigal et al., 2006; Neubert et al., 2004; Zafft, Hart, & Zimbrich, 2004). Services may include understanding the local neighborhood and its resources through community-based instruction (CBI); determining student preference and interests and parental needs through person-centered planning; collaborating with persons and agencies outside the school systems who may support the student; teaching academic, social, and vocational skills that lead to competitive or supported employment; and balancing vocational training with inclusion in age-appropriate social and academic programs (Test et al., 2009a; Test et al., 2009b).

However, in survey research regarding role and functions, school psychologists reported spending approximately 45-55% of their workday in psychoeducational assessment, 20-25% in direct services/intervention, 15-20% in consultation, and 1-2% in research/evaluation (Bramlett et al., 2002; Castillo, Curtis, Chappel & Cunningham, 2011; Fagan & Wise, 2007). While professional roles may have shifted due to IDEA

(2004), No Child Left Behind (2001) and response-to-intervention (RTI) implementation, researchers (see Farrell, 2010; Restori, Gresham, & Cook, 2008; Wnek, Klein, & Bracken, 2009; Worrell, Skaggs, & Brown, 2006) continue to report that cognitive testing forms a central part of school psychologists' professional efforts despite many practitioners' reporting that they would like to reduce their assessment activities in favor of increased engagement in consultation, intervention and other diverse services.

Reflecting current school psychologist roles and functions, involvement in the areas of transition (i.e., direct services, consultation, and evaluation) other than assessment was identified as "limited" by respondents in previous studies (Staab, 1996). In a national survey ($N = 602$) to determine how secondary school psychologists integrated transition-related functions into the basic components of comprehensive psychological service, Stabb (1996) reported that most school psychologists believed they should be involved in transition activities (81.8%), but many (50%) also reported they were not participating at the level that they should be in this area. Moreover, Staab (1996) indicated that many school psychologists "believed they had more to offer than they were being allowed to provide" (p. 123). Survey results indicated several factors hindered the involvement of school psychologists in transition planning, including knowledge level (e.g., lack of training; 20.9%) and attitudes (e.g., role restrictions; 58.6%, feelings that transitions were not an administrative priority; 40.6%). Similarly, Lillenstein (2002) found a significant difference ($p < .0001$) between the actual and desired roles of school psychologists with regard to transition planning. That is, while school psychologists expressed a desire to have a greater level of involvement in transition

services, they identified several perceived barriers (e.g., “role restrictions” 37.8%, “not trained” 25.6%) that limited their participation in transition-related activities.

Barriers related to knowledge and attitudes affecting behavior also were noted when investigating school psychologists' (called educational psychologists in the United Kingdom) participation in other nontraditional service delivery opportunities (e.g., mental health services, counseling). For example, in a large scale ($N = 455$) survey of the views of educational psychologists regarding the provision of therapeutic interventions in the school systems was conducted (Atkinson, Squires, Bragg, Muscutt, & Wasilewski, 2013), attitude (e.g., personal interest, job/role interpretation) and knowledge (e.g., training and supervision) were identified as barriers to service delivery (Atkinson et al., 2013).

In school psychology, a major barrier to transition-service delivery appears to be due to role restriction. Researchers examining the roles of school psychologists in transition-related activities, such as career assessment, vocational training, and transition planning, noted that school psychologists' transition engagement was primarily restricted to assessment-related activities (Levinson, 1998; Lillenstein, 2006; Staab, 1996; Ulmer, 2005). Staab (1996) confirmed that although assessments appeared to be a practice domain from which school psychologists wished to distance themselves from, it was the domain in which they felt familiar, and the domain in which they performed the most transition-related activities. Lillenstein (2002) and Ulmer (2004) corroborated these finding by reporting that school psychologists responding to their surveys indicated participation primarily in transition-related assessment tasks despite a desire to devote more time to a broader range of transition-related tasks other than assessment.

TPB and school psychologists' transition practices. TPB suggests that school psychologists are likely to perform behaviors that they have experience and are familiar with (e.g., conducting standardized assessments). Many school psychologists feel more knowledgeable about traditional assessment practices than other transition-related practices (Armistead, Castillo, Curtis, Chappel, & Cunningham, 2013; Staab, 1996). When considering the interplay between the TPB components of beliefs (i.e., experience and knowledge), attitudes, and behaviors, a lack of experience and knowledge in regards to a target group (e.g., students with ID and/or transition services) has been noted as a contributory factor in negative attitudes of those working in the helping professions (Oulette-Kuntz et al., 2003; Phillips, Morrison, & Davis, 2004; Slevin & Sines 1996; Yazbeck et al., 2004). Negative stereotypes and prejudices also can lead to a variety of negative outcomes (Rudman & Ashmore, 2007), including discrimination in the workplace (Bertrand & Mullainathan, 2003), inequities in educational and social opportunities (Czopp, 2010; Inzlicht & Schmader, 2012), diminished social relations (Taylor, 2011), and poor self-image (Bennett & Gaines, 2010).

As was previously mentioned, knowledge and experience informs attitudes, which in turn impact behaviors. Indeed, a particular behavior is most likely to occur if a person has the knowledge and skill needed to perform it (Montano & Kasprzyk, 2008). Despite the scarcity of literature regarding school psychologists and their interactions with students with ID, based on similar studies of educator behavior, it appears likely that school psychologists with past experiences with students with ID will be more likely to perform transition services for this group. Moreover, based on the special educational

literature, school psychologists who endorse positive attitudes toward transition services are likely more disposed to perform those services.

Current Study

The purpose of this study was to understand the current involvement and interest of school psychologists in transition services for students with ID. In light of Ajzen's (1985) TPB and the theorized flow of action between beliefs in and performance of tasks, particular scrutiny was given to knowledge, attitudes, and behaviors and three research questions were developed.

The first research question (RQ1) asked: "Does the transition survey used in this study have a factor structure that permits the exploration of the constructs – knowledge, attitudes, and behaviors – underlying TPB?" The primary purpose of the study is to understand the relationship between these constructs to better guide training experiences of future school psychologists and responsibilities of practicing school psychologists. Consequently, it is important to have the Transitions Survey represent the constructs it is purported to measure. An exploratory factor analysis was conducted to determine whether survey items represent the constructs of knowledge, attitudes, and behaviors. Exploratory factor analysis provided construct-related evidence for the validity of the transition survey. It is important to gather empirical evidence on the underlying factor structure of the transition survey since the survey is a new tool. The factor analytic results will enable future researchers to use the transition survey to identify school psychologists' behaviors and perceptions regarding transition services.

Research question two (RQ2) asked: "What are school psychologists' attitudes toward transition services and is there a relationship between respondents' attitudes and

(a) their previous experiences with transition services and individuals with ID; and (b) their knowledge regarding planning and delivering transition services to students with ID?" It was hypothesized that school psychologists' self-reported background experiences in and knowledge of transition activities for students with ID would account for a significant proportion of the variance in levels of school psychologists' attitudes toward transition services for students with ID. As noted above, a primary variable impacting teachers' behaviors (including provision of transition services) toward students with disabilities was attitude toward peoples with disabilities (Beattie, Anderson, & Antonak, 1997; Parasuram, 2006; Stella, Forlin, & Lan, 2007); consequently, it was deemed important to better understand the predictors of school psychologists' attitudes. A multiple regression was conducted to determine whether respondents' previous experiences with the ID population, previous involvement in transition tasks, and increased knowledge of transition activities would predict more positive attitudes toward transition services for students with ID.

For research question three (RQ3), the author asked "How involved are school psychologists in transition services for students with ID and is there a relationship between their levels of involvement and (a) how knowledgeable school psychologists feel about transition and students with ID, (b) their self-reported attitudes toward transition activities, and (c) their previous experiences with transition and people with ID?" It was hypothesized that increased levels of knowledge, positive attitudes toward transition and students with ID, and past experiences with transition and students with ID would be associated with increased levels of involvement in transition services for students with ID. Considering TPB, past transition literature (see Lillenstein, 2002; Staab, 1996; Ulmer,

2004), and research in special education and disability services (see Bertrand & Mullainathan, 2003; Bennett & Gaines, 2010; Czopp, 2010; Inzlicht & Schmader, 2012; Pettigrew & Meertens, 1995; Rudman & Ashmore, 2007; Taylor, 2011), knowledge, attitudes, and past experiences were predicted to account for a significant proportion of the variance in level of performance (i.e., behaviors) in transition tasks for students with ID. A multiple regression analysis was used to test this hypothesis.

Method

Participants and Procedure

An online survey was administered to a national sample of practicing school psychologists to obtain information about their current roles, responsibilities, and perceptions in regards to transition services for students with ID. Exploratory factor analysis (EFA) literature recommends a rule of 100 (Hatcher, 1994; Gorsuch, 1983; Kline, 1979; MacCallum, Widaman, Zhang & Hong, 1999). However, considering the Costello and Osborne (2005) literature review of EFA studies that reported the majority (25.8%) of journal accepted studies had a subject-to-variable (STV) ratio of between 2:1 and 5:1 and the rule of 150 (Hutcheson & Sofroniou, 1999), a minimum sample of 153 practicing school psychologists was established to conduct the necessary analyses. Participating school psychologists were contacted using purposive sampling, which refers to the deliberate choice of informants due to the qualities that the informants possess (Tongco, 2007). In other words, this study sought participants because of a particular characteristic (i.e., knowledge of and experience in school psychology). For the study, inclusion criteria for study participants narrowed the participant pool to school psychologists who (a) currently practice in a K-12 school district, and (b) spend a portion

of their time working with students aged 14 or older (i.e., students eligible for transition plans). The final sample consisted of 176 participants from 21 states.

The researcher contacted 50 state school psychology organizations via email to ask for permission to post the call for participants on their listservs. The email included a brief introduction to the study and a link to the online survey and the password to obtain access to the consent form. The researcher kept records of the number and extent of contacts with state organization leaders, how many actually allowed posting of the survey link, and how the organizations disseminated the survey link (e.g., listservs, newsletter, website). Participants were required to enter a password to obtain access to the online consent form and survey. After reviewing the electronic consent form and participation procedures, participants were allowed access to the survey by clicking the “I agree to participate” button. The consent form was not linked to the survey data. The form stated that completion of the survey indicated consent to participate in the study. However, the participants were required to indicate, “I agree to participate” in the study prior to obtaining access to the survey. All information was kept confidential, reported at the group level, and was to be destroyed 5 years after the completion of the study. The researcher maintained access to the electronic survey data and the consent forms. These data were accessible only by password. The participants’ names were not placed on the survey nor associated with any of the findings.

All participants who completed the survey were given the option to enter a chance to win one of six \$30.00 Amazon.com gift cards. After completing the anonymous survey, participants were provided with a link, which they could click on if they chose to enter. The link exited participants from the survey and redirected them to a separate

sweepstakes entry form page. Participants were able to enter their email address to enter the Amazon.com gift card drawing. Because a separate web page opened, the participants' questionnaire responses were not linked to their e-mail addresses or the sweepstakes entry. Thus, all data were anonymous from the beginning of the study. Names of school psychologists who submitted their e-mail address to participate in the sweepstakes were stored online in a Secure Sockets Layer (SSL) encrypted server. Email information was destroyed after the sweepstakes was completed.

Instrument

Framework. Evidence-based transition practices include several suggested areas of information, such as transition assessment, student-focused planning, interagency collaboration, occupational curricular areas (e.g., vocational, community-based, and independent-living), student development (e.g., social skills, self-advocacy and self-determination), work experiences (e.g., employment and vocational programs), and program evaluation (Benitez, Lattimore, & Wehmeyer, 2009; Test et al., 2009a).

The National Secondary Transition Technical Assistance Center (NSTTAC) conducted a two-stage review of literature to identify the evidence-based practices in secondary transition. In Part I, evidence-based practices based on experimental (single and group design) studies were identified (Test et al., 2009a). Test and his colleagues (2009a) identified 32 evidence-based practices based on quality indicator checklists for group (Gersten et al., 2005) and single-subject research (Horner et al., 2005) from a special issue of *Exceptional Children* published in 2005. Meta-analyses with clearly described search procedures and quantified results also contributed to the identification of evidence-based transition practices (Test et al., 2009a). NSTTAC organized the 32

identified evidence-based transition practices under five domains first identified by Kohler (1996) in his *Taxonomy of Transition Planning*: student-focused planning, student development, family involvement, program structure, and interagency collaboration.

In Part II, Test and colleagues reviewed correlational research to identify evidence-based predictors in secondary transition that are correlated with improved post-school outcomes in education, employment, and/or independent living (Test, Mazzotti, Mustian, Fowler, Korterling, & Kohler, 2009b). NSTTAC identified 16 evidence-based practices from the correlational research as predictors of post-school success (Test et al., 2009b). The 16 evidence-based predictors were identified via an electronic search of correlational studies related to post-school outcomes for students with disabilities (Test et al., 2009b). To be selected, studies had to have included predictor variables related to a secondary transition program or practice and outcome variables related to post-school education, employment, and independent living. The quality of evidence was assessed via a 13-item checklist for correlational research developed based on criteria from Thompson, Diamond, McWilliam, Snyder, and Snyder (2005).

Test et al. (2009b) noted that the evidence-based strategies should “lead to improved school services and post-school outcomes for all students with disabilities” (p. 180). Currently, there appears to be a research-to-practice gap in regards to utilizing evidence-based practices for students with ID in the transition process (Baer, Daviso, Flexer, Queen, & Meindl, 2011; Bouck, 2012; Shogren & Plotner, 2012). Research-based recommended practices (e.g., community-based instruction, parent involvement, and work experiences) are inconsistently implemented in secondary transition programs (Frank & Sitlington, 2000). One theory explaining the research-to-practice gap is the lack

of communication between the research and practice communities (Greenwood & Abbott, 2001). Consequently, for this study a survey was developed to assess if practicing school psychologists are aware of and performing evidence-based transition activities that are likely to increase post-school success for students with ID. The NSTAAC practices (e.g., functional academic skills, community-based instruction, activities of daily living, work-study programs; Test et al., 2009a) and predictors (e.g., interagency collaboration, student-centered planning, parental inclusion; Test et al., 2009b) formed the basis for the items on the transition survey used in the current study.

Development. The survey used in the current study was adapted from questionnaire used in previous studies of school psychologists' transition involvement (Staab 1996; Lillenstein, 2001). Staab (1996) and Lillenstein (2002) utilized expert focus groups to provide evidence for the content validity of the original survey. To develop the current survey, Staab's original survey went through a recursive modification process, and clarifications, additions, and deletions to the questionnaire were made to reflect the investigation's target population and contemporary transition best practices, as endorsed by NSTTAC.

The survey collected data on the engagement of school psychologists in transition services for students with ID. The survey items included closed-ended, rank-order, Likert-scale, and short answer responses. The survey included 5 sections: demographics (11 questions), knowledge (21), dispositions (19), behaviors (12), and open-ended (3). Seven school psychology doctoral students completed the survey to determine the clarity of the questions, the usability of the survey format, and the time required by the participant. Based on pilot data, it was estimated to take approximately 15 to 20 minutes

to complete. Revisions resulting from the pilot included restructuring survey format, reviewing for grammatical/typing errors, and rewording survey questions to increase clarity.

When compared to the Staab (1996) original questionnaire, the current transition survey retained the combination of multiple-choice and Likert-scale structure of the original items. The training section was reconceptualized as a knowledge section with subcategories of “knowledge” and “training.” The knowledge subcategory reflected the evidence-based practices in secondary transition identified by Test et al. (2009a). The barriers section was subsumed into the disposition sections. Several response options were converted from multiple-choice to Likert-scale to reflect the degree to which the variable impacted the respondent’s participation in transition activities. Furthermore, the “behaviors” section was changed from 10 consultation, 6 assessment, 7 direct services, and 2 general questions to 12 questions that broadly queried the school psychology practice domains (i.e., assessment, consultation, evaluation). The elimination and reordering of questions occurred to decrease redundancy across survey sections, to increase specificity to the ID population and current transition practices, and to improve clarity of the question.

Part 1 of the transition survey (11 demographics questions) asked respondents about their current primary role, most advanced level of graduate training, years of experience, grade range of students served, district student-to-psychologist ratio, and school district setting. It also included questions about the percentage of time spent on transition-related activities and their experiences working with students with ID.

Part 2 of the transition survey (21 knowledge questions) asked respondents how prepared they believe they were to coordinate transition activities, what type of training they have had related to transition/transition coordination, and how knowledgeable they felt in the area of transition. The knowledge section referenced transition competencies and best practices identified by NSTTAC (see Test, Fowler, Kohler, Kortering, 2010; Test et al., 2009a; Test et al., 2009b). Questions in this section queried respondents about their knowledge in transition competencies linked to positive student outcomes and the degree to which they felt prepared to perform the activities related to transition services.

Part 3 of the transition survey (19 disposition questions) asked respondents about their beliefs regarding the importance they placed on engaging in evidence-based transition-related activities and their perception of the role of the school psychologist in transition services. Questions in this section were based on identified predictors of improved post-school outcomes (Test et al., 2009b) and the practice domains of school psychologists (i.e., Consultation, Assessment, Direct Services, and Program Planning/Evaluation; NASP 2010). Respondents used a Likert scale to rate the level of importance they prescribed to the engagement of the school psychologist in transition related activities.

Part 4 of the transition survey (12 behaviors questions) asked the respondent to report the frequency of their evidence-based, transition-related behaviors. The transition-related activities for students with ID paralleled the questions found in the dispositions sections. Respondents used a Likert scale to rate their current level of performance of transition related activities.

Part 5 (3 open-ended questions) asked participants to identify barriers and facilitators in providing transition services to students with ID. Additionally, there was final query asking school psychologists if they had any additional thoughts regarding transition.

Data Analysis

Descriptive statistics, EFA, and multiple regression were used to summarize the data and address the three research questions. Descriptive statistics (e.g., mean, median, and mode) were used to identify the demographic trends of the participating school psychologists, such as workload demands, school setting, and years as a practicing school psychologist. Barriers and facilitators were tabulated based on descriptive statistics.

For RQ1, the factor structure of the transition survey was evaluated through EFA and subsequent internal consistency estimates and correlations between the subscales. The researcher conducted an EFA to explore the factor structure of the transition survey. A total of 51 pre-selected items under 3 measures, knowledge (20 items), disposition (19 items), and behavior (12 items), were included in the factor analysis. Demographic information and open-ended questions were excluded. As the transition survey has not been analyzed prior to this study, EFA was selected to help the investigator determine the factor structure of the instrument and to define the content or meaning of the factors (Suhr, 2006). For each subscale, internal consistency estimates to examine reliability and correlations to examine the relationship of the scales were conducted. EFA and internal consistency estimates and correlations were conducted using the SPSS package.

The Kaiser-Meyer-Olkin measure of sampling adequacy, which is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of

the partial correlation coefficients, and Bartlett's test of sphericity, which is used to test the null hypothesis that the variables in the population correlation matrix are uncorrelated, were used to confirm the appropriateness of the analysis. To determine the number of components to extract in the factor analytic procedure, Cattell's (1966) scree test was used. The scree test involves examining the graph of the eigenvalues (i.e., the amount of variance explained by each factor) and looking for the natural bend or break point (i.e., the "elbow") in the data where the curve flattens (Costello & Osborne, 2011; Suhr, 2006). Cattell's (1966) guidelines call for retaining components above the elbow and rejecting those below it. An oblique rotation was applied to simplify the rows (i.e., variable loading across factors) and columns (i.e., factors) of the factor matrix to facilitate interpretation. To determine interpretability (i.e., validity), the following questions were considered (Suhr, 2006):

1. Convergent validity: Are there at least 3 items with significant loadings (>0.45) for each factor/subscale?
2. Divergent validity: Does the rotated factor pattern demonstrate simple structure with no cross loading (i.e., relatively high loadings on one factor and low loadings on other factors)?
3. Face validity: Do the items that load on a factor share some conceptual meaning and do the items that load on different factors measure different constructs?

Reliability tests were conducted using squared multiple correlations (R^2) for each measurement item. The sum of the squared factor loadings for all factors for a given item is the variance in that variable accounted for by all the factors, and this is called the communality. The communality measures the percent of variance in a given variable

explained by all the factors jointly and may be interpreted as the reliability of the indicator. As a rule of thumb, measurement variables are reliable when R^2 of each one is greater than 0.5 (Byrne, 2001; Holmes-Smith, 2001). Further, Cronbach's alpha was used as a measure internal consistency. Construct reliability greater than 0.7 and variance extracted greater than 0.45 were used to indicate reliable factors (Hair, Anderson, Tatham, & Black, 1998; Holmes-Smith, 2001).

For RQ2 and RQ3, a multiple regression analysis was conducted using SPSS software. In question two, the regression was used to determine if the amount of variance in attitude attributed to transition tasks (i.e., dependent variable) was accounted for the following predictor variables: school psychologists' knowledge of transition services and background experiences. Multiple regression explores the relationship between one dependent variable and two or more independent variables and the extent to which the independent variables are able to predict the dependent variable (Creswell, 2002; Pallant, 2001). The data are entered into the SPSS program; outliers are identified and removed by calculating the studentized residuals and calculating and comparing the Cook's distances (Cook, 2000; Field, 2009; Paul & Fung, 1991). The studentized residual was chosen because it provides a more precise estimate of error when compared to the unstandardized and standardized residuals (Cook, 2000; Field, 2009). The Cook's distance measures a case's overall effect on the model, and cases with values greater than 1 are removed (Field, 2009). A backward multiple regression model was selected because the independent variables (i.e., experiences and knowledge) entered were based on previous literature suggesting a relationship between them and the outcome (Beattie, Anderson, & Antonak, 1997; Parasuram, 2006; Stella et al., 2007). Backwards regression

begins with an examination of the combined effect of all of the independent variables on the dependent variable. Independent variables are removed one by one based on inclusion criteria for the model (i.e., .05 level of significance) and a new analysis is performed. This process continues until removal of any of the variables would cause a significant decrease in total variation and a model is created. The results of a backward multiple regression provide coefficients for each independent variable and signify the degree to which each one, when combined with the others, contributes to predicting the dependent variable. It was hypothesized that knowledge and experience would account for a significant portion of variance in the importance attributed to transition tasks. The analysis was run with the total scores of each participant in the areas of attitudes (i.e., importance and disposition), knowledge, and experiences (i.e., ID and transition team exposure).

In RQ3, a backward multiple regression was used to determine if the amount of variance in frequency of performance of transition tasks was accounted for the following predictor variables: school psychologists' attitudes toward transition, knowledge in the areas of transition services, and background experiences. The dependent variable was the performance of transition tasks. Similar to RQ2, a backwards regression model was selected because the independent variables (i.e., knowledge, experiences, attitudes) entered were based on previous literature suggesting a relationship between them and the outcome (Lillenstein, 2002; Staab, 1996; Ulmer 2004). The analysis was run with the total scores of each participant in the areas of knowledge, attitudes (i.e., disposition and importance), experiences (i.e., ID and transition team exposure), and behavior (i.e., performance). Overall, the three predictors were hypothesized to account for a significant

portion of variance in performance with attitudes and knowledge being the primary contributors to the variance (Ulmer, 2004).

Results

Demographic Information

Of the 269 respondents, 176 school psychologists from 21 states met the inclusion criteria for this study. They provided demographic data related to their degree, school setting, years working as a school psychologist, caseload, and personal experiences with the ID population and transition teams. The respondents reported working in the school settings for a median of 9 years. The majority (68.2%, $n = 120$) of respondents indicated they had a specialist's degree; 18.7% ($n = 33$) held a doctoral degree and 13.1% ($n = 23$) held a master's degree. Other demographic information is reported below and in Table 7.

Table 2

Demographic Information for the transition survey Respondents (N=176)

		<i>n</i>	Percent (%)
Degree	Masters	23	13.1
	Specialist	120	68.2
	Doctoral	33	18.7
Location	West	20	11.4
	South	87	49.4
	Midwest	20	11.4
	Northeast	49	27.8
Setting	Rural	35	19.9
	Suburban	70	39.8
	Urban	71	40.3
School Psychologist			
to Student Ratio	Less than 1:999	62	35.2
	1:1000 to 1:1999	68	38.6
	More than 1:2000	46	26.1
Job Description	Transition included	54	30.7
	Transition not included	91	51.7
	Unsure if transition is included	26	14.8
	Transition components included	5	2.8

Respondent location. School psychologists listed the state where they worked at the time of survey completion. Region options were created using the four regions (West, South, Midwest, and Northeast) identified by the United States Census Bureau. Community characteristics options included suburban, urban, and rural. Of the 50 states contacted, 21 states distributed the survey via their state association listserv. The majority of respondents were located in the South (49.4%, $n = 87$). The Northeast had the second largest representation (27.8%, $n = 49$) and the West and Midwest tied for third (11.4%, $n = 20$). It should be noted that nearly half of the respondents were located in one of two states, Georgia (24.4%, $n = 43$) and New York (19.9%, $n = 35$). In regard to community setting, 40.3% ($n = 71$) indicated working in an urban location, 39.8% ($n = 70$) in a suburban location, and 19.9 ($n = 35$) in a rural setting.

Transition experience. The majority (51.7%, $n = 91$) of respondents indicated transition services were not part of their school psychology job description; 30.7% ($n = 54$) reported transition services were part of their job description, and 14.8% ($n = 26$) indicated they were unsure. A few respondents (2.8%, $n = 5$) noted that only specific components of transition services (e.g., assessment, reevaluation, placement) were part of their job description. The respondents indicated that they had worked with a median number of 48 students with ID and served on a median number of 14 transition teams/meetings.

Research Question 1: EFA

EFA was used to answer RQ1: "Does the transition survey used in this study have a factor structure that permits the exploration of the constructs – knowledge, attitudes, and behaviors – underlying TPB?" A total of 51 pre-selected items under 3 measures,

knowledge (20 items), attitude (19 items), and behavior (12 items), were included in the factor analysis.

Factor analysis. An EFA with an oblique rotation was used to identify the factors within the transition survey. To begin the EFA of the transition survey, inter-item correlations were examined to determine if any of the scale's items were highly correlated and therefore repetitive. No inter-item correlations above .90 were found. Nine factors were identified with eigenvalues greater than 1.0. Based on Cattell's (1966) guidelines call for retaining components above the Scree plot point of inflexion and rejecting those below it, four factors were retained; therefore, a factor analysis was conducted with a four-factor model (see Table 8).

Table 8

Eigenvalues results for retained factors.

Factor	Total	% of Variance	Cumulative %
1	19.68	38.59	38.59
2	4.80	9.41	48.00
3	2.23	4.35	52.35
4	2.18	4.28	56.63

Of the four factors, three were retained, as one factor did not meet convergent validity criteria (i.e., minimum of three factor loadings of .45 or above; Suhr, 2006). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .923 suggested a pattern of correlations that were compact (Field, 2009). Bartlett's test of sphericity ($p < .001$) indicated that assumptions for factor analysis were met. After oblique rotation, the percent of variance accounted for by the first extracted factor was 38.6%. Factors 2 and 3 accounted for 9.4% and 4.4% of the variance respectively. Cronbach's alpha, which is a measure of the mean correlation among the items in scale, was examined on each of the three factors to explore the homogeneity of the item content. Factor 1 (Knowledge) produced an alpha of .94, Factor 2 (Attitude) produced an alpha of .93, and Factor 3 (Behavior) produced an alpha of .93. An alpha of at least .70 or higher is required to retain an item in an "adequate" scale. Please refer to Table 9 for descriptive information for the three factors. Scores for the instrument as a whole, measuring overall school psychologists' knowledge of, attitudes toward, and behaviors in transition services had an adequate reliability coefficient for this sample (Cronbach's $\alpha = .83$).

Table 9

Descriptive information for the transition survey.

Factor^a	Number of Items	Mean Rating	SD	α
(1) Knowledge	17	2.48	.62	.94
(2) Attitude	17	3.14	.53	.93
(3) Behavior	11	2.16	.68	.93

^a Scores range from 1-4 for all scales.

Note. Knowledge, Attitude and Behavior scales were comprised of 17, 17, and 11 items, respectively.

Items that primarily loaded on Factor 1 (Knowledge) were related to respondents' knowledge and training (17 items). Knowledge questions asked respondents to indicate their level of familiarity with topics such as, "Methods to increase joint (i.e., interagency, interdisciplinary) transition service delivery" and "Evidence-based daily living transition practices (e.g., job-seeking skills, computer assisted instruction)." Training questions asked respondents to indicate their level of preparedness with questions such as, "I feel prepared to engage in the transition-related activities for students with an intellectual disability" and "I feel prepared to conduct transition assessments for students with an intellectual disability (i.e., collecting data on strengths, needs, preferences, and interests as they relate to the demands of current and future educational, living, and community environments)."

Disposition and importance items primarily loaded on Factor 2 (Attitude; 17 items). Disposition questions asked respondents to report their level of agreement for items such as, "School psychologists should participate in transition planning for high school students with an intellectual disability" and "I have a professional interest in

performing transition-related activities for students with an intellectual disability.”

Importance questions asked the respondents to report their level of perceived importance to stems such as, “Developing transition-related interventions (e.g., social skills training, collaborative work experiences, self-advocacy skills) that help students with an intellectual disability successfully move from school to post-school settings” and “Providing information to students with an intellectual disability to help them understand transition planning and their role(s) and legal rights.”

Behavior items primarily loaded on Factor 3 (11 items). Behavior questions asked respondents to indicate the frequency with which they performed transition-related tasks such as, “Conduct transition-focused comprehensive evaluations (e.g., strengths/needs in vocational, academic, interpersonal, adaptive areas) for students with an intellectual disability” and “Provide suggestions (via the psychoeducational report, individualized education program meeting, etc.) for post-school services and goals based on evaluation results.”

There were several questions did not reach the criteria for inclusion on the three factors. From the survey’s “Training” section, “I have received sufficient training in career development theory,” “I have not received sufficient training in transition-related legislative practices regarding students with an intellectual disability,” and “I do not have training in transition services for students with an intellectual disability” did not meet criteria for inclusion in any of the three retained factors. From the “Disposition” section, “Transition tasks are not an administrative priority for me to be involved” and “Other job duties (e.g., assessments, classroom observations, counseling cases) prevent my participation in transition tasks” did not meet criteria for inclusion. Finally, from the

“Skills” (i.e., performance) section, an item that read “Provide information (e.g., consultation, in-services) for school staff on transition issues (e.g., legal aspects, research-based transition strategies)” was not included. Please refer to Appendix A for a complete list of the survey items and their associated factors.

Considering the nonessential nature of the fourth factor, the EFA was also repeated using a three-factor model. The analysis resulted in near identical findings: 45 items loaded on the three factors (factor 1 = 16 items, factor 2 = 15 items, factor 3 = 14) and the KMO measure of sampling adequacy ($KMO = .923$) and Bartlett’s test of sphericity ($p < .001$) were significant. However, the four-factor model analysis had greater face validity than the three-factor model analysis. The four-factor model analysis resulted in items loading on factors that shared conceptual meaning, thus, creating a simpler model structure that aided interpretation

Research Questions 2 and 3: Multiple Regression

For RQ2 and RQ3, descriptive statistics and backward multiple regression analyses were conducted to examine the relationship between school psychologists’ levels of performance of transition services, attitudes toward transition, attributed importance toward transition tasks, knowledge and training in the areas of transition services, and background experiences. Based on the EFA the following variables were used in the regression analyses: Knowledge (Kscale; knowledge and training items from the transition survey that loaded on factor 1), Attitude (Ascale; importance and disposition items from the transition survey that loaded on factor 2), and Behavior (Bscale; skills items from the transition survey that loaded on factor 3). Additionally, background experiences (IDservice, number of students with ID the respondent had

engaged with; TSteam, number of transition teams the respondent had participated in) were included as predictors. The analyses were run with the total scores for each variable identified. Like the EFA, the backwards multiple regressions were completed using SPSS 22 for OSX.

School psychologists' attitudes toward transition tasks. To answer the first part of RQ2, mean scores were calculated for the Attitude Scale items (see Appendix B). Respondents mean score on the Attitude subscale was 53.40 (s.d. = 0.53) out of a total possible score of 68. The mean item rating on the attitude scale was 3.14, indicating that respondents "somewhat" agreed that transition tasks are important.

For the second part of RQ2, backward multiple regression analysis was used to develop a model for predicting school psychologists' attitude toward transition services for students with ID (Ascale) from their level of transition knowledge (Kscale) and background experiences with students with ID (IDservice) and transition teams (TSteam). See Table 10 for correlations between the independent (predictor) and dependent variables.

Table 10

Correlation between RQ2 Predictor Variables (N = 176)

	Ascale	Kscale	IDservice	TSteam
Attitude (Ascale)	1.00			
Knowledge (Kscale)	.52	1.00		
ID population experience (IDservice)	.01	.18	1.00	
Transition team experience (TSteam)	.20	.28	.33	1.00

It was hypothesized that school psychologists' self-reported background experiences and knowledge of transition activities for students with ID would account for a significant proportion of the variance in attributed attitude toward transition services for students with ID. The results of the regression analysis indicated that the Knowledge (Kscale) predictor variable ($\beta = .52, p < .00$) explained a significant portion of variance in attitudes toward transition task performance and created the best explanatory model. The knowledge predictor model accounted for approximately 27% of the total variance in attitude toward transition services for students with ID, $F(1,174) = 63.87, p < .001, R^2 = .27, 95\% \text{ CI } [.16, .38]$ (see Table 11). Background experiences with transition teams and students with ID were found to have minimal prediction value ($R^2 \text{ change} = -.01, p = .18$) and were dropped from the model.

Table 11

Summary of Regression Analysis for Variables Predicting School Psychologists' Performance of Transition Activities (N = 176)

Predictor	<i>b</i>	SE	β	VIF	<i>p</i>	<i>sr</i>²
Knowledge (Kscale)	.44	.06	.52	1.00	.00	.27

Note. The dependent variable was Ascale

*sr*² is the squared semi-partial coefficient

School psychologists' performance of transition tasks. To answer the first part of RQ3, mean scores were calculated for the Behavior Scale items (see Appendix B). Respondents mean score on the Behavior subscale was 23.81 (s.d. = 0.68) out of a total possible score of 44. The mean item rating on the attitude scale was 2.16 on Behavior items, indicating that respondents "seldom" performed transition tasks.

For the second part of RQ3, backward multiple regression analysis was used to develop a model for predicting school psychologists' level of performance of transition services (Bscale) from their level of transition knowledge (Kscale), attitudes toward transition services (Ascale), and background experiences with students with ID (IDservice) and transition teams (TSteam). See Table 12 for correlations between the independent (predictor) and dependent variables.

Table 12

Correlation between RQ3 Predictor Variables (N = 176)

	Bscale	Ascale	Kscale	IDservice	TSteam
Behavior (Bscale)	1.00				
Attitude (Ascale)	.63	1.00			
Knowledge (Kscale)	.71	.52	1.00		
ID population experience (IDservice)	.18	.01	.18	1.00	
Transition team experience (TSteam)	.24	.20	.28	.33	1.00

It was hypothesized that increased levels of knowledge of and training in transition, positive attitudes toward transition, and past experiences with individuals with ID and transition services would be associated with increased levels of performance of transition services for students with ID. The results of the regression analysis indicated that the combination of predictor variables of Knowledge (Kscale), Attitude (Ascale), and experiences with individuals with ID (IDservice) explained a significant portion of variance in transition task performance and created the best explanatory model. Background experience with transition teams was found to have minimal prediction value (R^2 change = .00, $p = .90$) and was dropped from the model. This three predictor model was able to account for 60% of the total variance in extent of performance of transition activities, $F(3,172) = 86.52$, $p < .001$, $R^2 = .60$, 95% CI [.51, .69] (see Table 13).

Table 13

Summary of Regression Analysis for Variables Predicting School Psychologists' Performance of Transition Activities (N = 176)

Predictor	b	SE	β	VIF	p	sr^2
Attitude (Ascale)	.30	.05	.36	1.38	.00	.09
Knowledge (Kscale)	.36	.05	.51	1.43	.00	.18
ID population experience (IDservice)	.00	.00	.08	1.04	.09	.01

Note. The dependent variable was Bscale.

sr^2 is the squared semi-partial coefficient.

While all three variables in the model had significant contribution to the variance, the best predictor of frequency of transition task performance was knowledge ($\beta = .51, p < .00$), which contributed 31% to the total variance. Attitude ($\beta = .36, p < .00$) contributed an additional 19% and experience with students with ID ($\beta = .08, p < .09$) added an additional 2%. Interaction among the independent variables accounted for the remaining variance.

Discussion

The purpose of this study was to understand school psychologists' current engagement in and attitudes toward transition services for students with ID. Specifically, the researcher was interested to learn whether or not practicing school psychologists were knowledgeable about topics related to transition services, positively disposed toward transition tasks, and performing transition-related tasks. The study examined the relationships between knowledge (i.e., knowledge and training), attitude (i.e., disposition and importance), behavior (i.e., frequency of performance of transition-related tasks), and background experiences related to transition services and people with ID. Predictions were made based on Azjen's (1985) TPB, which postulates that knowledge and attitude

can influence behavior. Some components of the proposed hypotheses were supported and the study produced expected results based on the literature, while other components were found to be insignificant in contrast to the literature base.

Major Findings

Demographics. When compared to NASP membership demographic data, the study participants were more likely to be specialist-level school psychologists (68.2% vs. 45.8%, respectively), working in a suburban-urban district (70% and 71% vs. 43.4% and 26.5%, respectively), and practicing in a district with greater than a 1:2000 school psychologist to student ratio (26.1% vs. 14.4%, respectively). The degree differences between the NASP membership data and study participants likely resulted from the inclusion criteria, which explicitly stated that participants must be practicing school psychologists in a K-12 setting; consequently, there was a greater representation of the degree needed to practice in school systems (i.e., specialist degree). Fewer doctoral-level school psychologists may be included in the sample since the survey excluded school psychology faculty members and school psychologists in private practice or non-school practice settings. The district setting and school psychologist-to-student ratio were likely skewed because nearly half of the study respondents were from New York and Georgia. As a result, most of the participants reported working in a suburban or urban setting, which often have a greater number of students per district than rural settings.

Survey design. The transition survey was created using TPB as a framework; thus there was an expectation that items would cluster around the three constructs of knowledge, attitudes, and behavior. The results of the analysis revealed that 45 of the 51 pre-selected items loaded under three factors that could be labeled “Knowledge,”

“Attitude,” and “Behavior.” Since no independent, empirical evidence on the underlying factor structure of the transition survey existed prior to this study, it was important for practitioners and researchers to fully understand what constructs they are in fact measuring when using this new tool. By identifying the constructs, the survey allows its users to better understand the barriers to their participation in transition tasks.

Knowledge and school psychologists’ engagement in transition services.

Knowledge, which included transition training and information survey items, was the best predictor for both attitude toward and performance of transition-related tasks. TPB suggest that information with content specific to the desired behavior increases the likelihood of performing the behavior (Ajzen, Joyce, Sheikh, & Cote, 2011; Beattie, Anderson & Antonak, 1997; Carroll, Forlin & Jobling, 2003; Lambe & Bones, 2006; Oulette-Kuntz et al. 2003). According to the survey responses, participants indicated that they were “seldom” performed transition tasks (mean rating = 2.2). When the participants’ responses on the Knowledge scale items are more closely examined, the mean rating was 2.5. A rating of “2” on the knowledge items indicated “limited” knowledge. Moreover, respondents indicated “somewhat disagree” with statements that indicated they have received sufficient training regarding transition; see Appendix B for a list of Knowledge Scale mean item scores.

As the survey items were transition-specific, the results corroborate the idea that the more information and training school psychologists receive regarding transition policies and practices, the more likely they are to perform transition-related tasks.

On the survey's open-ended question asking about barriers and facilitators, 38.6% ($n = 68$) of the respondents indicated that lack of transition training and knowledge was a

factor that hindered their provision transition services. One respondent wrote, “I did not receive training in graduate school on this issue,” while another stated, “My graduate program and current district has provided two training about these services [*sic*].” When reflecting on TPB and previous research in the field of special education, knowledge and training should be the most contributory factors influencing levels of perceived importance of professional tasks and responsibilities. Knowledge and training build an individual’s belief systems, feed into personal attitudes, and impact how the individual will perform on the job (Ajzen, 1985; Fagan & Wise, 2000).

Attitude and school psychologists’ performance of transition services.

Attitude was found to be an important predictor of transition-related behavior for school psychologists. While respondents indicated they view transition tasks as “somewhat important” (mean rating of 3.2), they also indicated they “somewhat disagree” school psychologists should perform transition activities (mean rating of 2.8). TPB suggests that attitudes reflect how much individuals value the importance of a behavior and determine how likely they are to perform a behavior (Ajzen, Joyce, Sheikh, & Cote, 2011). Given that attitude toward transition tasks also influences performance of transition tasks, it is unsurprising that respondents reported only “seldom” performing transition tasks for students with ID (mean rating of 2.1). An avenue for increasing transition-related behaviors might be changing school psychologists’ attitudes toward transition tasks. Positive attitudes about transition tasks and the population will likely result in an increased performance in transition services for students with ID.

Experiences and school psychologists’ performance of transition services. It

is interesting to note that experiences with individuals with ID and experience with

transition teams had relatively insignificant associations with enactment of transition behaviors and attitudes toward transition tasks. This finding does not conform to the theory of action espoused by TPB and evident in much of the special education literature. TPB suggests that past experiences engaging in a behavior increases the likelihood of repeatedly performing the behavior. One hypothesis for the low impact of transition team experience may be due to school psychologists having minimized roles in transition teams or negative experiences with transition teams. On the open-ended survey question regarding barriers to participation, several respondents indicated, “I am not invited to participate,” “the teachers do not include me,” or “I have a fear of overstepping boundaries.” Additionally, they consistently noted that job description and caseload were barriers to performing transition tasks. Another possible interpretation of the minimal impact of previous experiences with students with ID might be that as school psychologists interact with students with ID, they learn more about their personal job preferences and bounds of competencies and decide that they are not interested in ongoing engagement with this group of students. Perhaps school psychologists’ interactions with individuals with ID are fleeting, and sustained direct exposure to individuals with ID is necessary to impact school psychologists’ professional beliefs and actions. This explanation would contradict some special education literature, which suggests that both indirect and direct exposure result in subsequent positive engagement with people with disabilities (Beattie, Anderson, & Antonak, 1997; Stella et. al., 2007). When considering pre-service training, this would suggest that significant direct interaction with secondary students with ID is necessary to foster positive predisposition toward performing transition tasks for this group.

Limitations and Future Research

There are several limitations in the current study. The study consisted of a small national sample with minimal geographic variability. Future researchers may want to investigate whether or not state-level differences impact practice and priorities of school psychologists regarding transition services for students with ID. Additionally, replicating the survey with larger national sample would provide an opportunity to verify the survey factor structure; confirmatory factor analysis should be conducted to inform any subscales or instrument revisions that might take place. A second limitation of the study is the use of a self-report survey; participants may not accurately report information. In light of this, observations, extant data and record review, or third-party report may be useful to ensure accurate representation of school psychologists' performance of transition services. In addition, focus groups or interviews may yield more in-depth information about the role and perceptions of school psychologists in transition services for students with ID. Finally, the use of purposive sampling decreases the overall generalizability of the results. It might be informative to conduct this survey with special educators, school administrators, and school psychologists to gain a better understanding of the expectations and opinions of school psychologists regarding transition services provided to students with ID. It would be useful to understand how students, parents and other school personnel feel about the integration of school psychologists in the transition process.

Implications for Policy and Practice

To increase school psychologists' engagement in and attitude toward transition tasks, they should be exposed to transition-specific information as part of their graduate

training and in-service professional development. Limited knowledge and insufficient training are two structural barriers that school psychology training programs and school districts can directly change by providing transition-specific graduate coursework and professional development opportunities. To address the concerns about inadequate training, school psychologists should strive to become more knowledgeable about universal design for learning (UDL), self-determination, career development theory, strengths-based assessments, post-school options and outcomes for students with ID, and NSTTAC-endorsed transition skills and interventions. There is a need for a new cohort of professionals who can work in an educational framework across the school, transition and post-secondary school work environments (Winn & Hay, 2009). Consequently, it is important for training programs to place a greater emphasis on issues and knowledge associated with post-school options for young people with disabilities.

Transition services are a key avenue for a broadened school psychologist role in special education. One proposed suggestion to increasing school psychologists' roles in transition tasks includes practitioners advocating for special education reform (Levinson & Murphy, 1999). Advocacy may be required to reduce the amount of individual testing required of school psychologists, change job descriptions, and address the high school psychologist-to-student ratios that result in large caseloads for practitioners. This, in turn, may provide school psychologists with more time to devote to other services, such as transition-related tasks.

Changing the attitudes of school psychologists toward transition represents another means to increase the level of engagement of school psychologists in transition services. Ulmer (2005) recommended shared pre-service training and coursework with

special educators to address both the transition-related attitudes and skills of school psychologists. Fagan and Wise (2000) posited that the attitudes of school psychologists are shaped by various factors associated with school psychology training programs (e.g., philosophical position, research interests of faculty, type of graduate degrees offered, location, etc.). Therefore, another method of shaping practitioner attitudes might be to evaluate graduate programs and school districts' openness toward school psychologists performing transition tasks.

Conclusions

This study intended to further the knowledge of researchers and practitioners on the importance of knowledge of and attitudes toward transition activities in regard to performing transition-related behaviors for students with ID. This is the first study to examine the role of school psychologists in transition services for students with an ID. Consequently, it contributes school psychology literature concerning post-school transition for students with ID. Additionally, it identified factors to help reduce the gap in service provision and increase the support for individuals with ID in regard to post-school transition.

The three research questions demonstrated the influence of knowledge and attitude on school psychologists' transition-related behaviors, as suggested by TPB. Effectively, knowledge predicts attitudes, which then predict behavior (Glasman & Albarracin, 2006); or, in this case, the more practitioners know about a behavior, such as transition services, the better they feel about it, and the more likely they are to participate in transition tasks. Consequently, a key feature to increasing school psychologists' performance of transition tasks is to encourage positive attitudes toward transition tasks

by providing specific transition-related knowledge. This could be attained through graduate coursework or in-service professional development relating to contemporary/non-traditional assessment practices and evidence-based transition services (e.g., NSTTAC indicators). Since attitudes are formed based on individuals' knowledge and experience of the given topic, it is imperative to arm practitioners with information related to effective transition services and the educational needs (and rights of) students with ID. Knowledge is the key to increased commitment and engagement of school psychologists to effective transition services for students with ID.

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APPENDIXES

APPENDIX A

FACTOR LOADINGS FOR TRANSITION SURVEY (N=176)

Variable	Survey Item	Factors		
		Knowledge (1)	Attitude (2)	Behavior (3)
knowA	Transition practices (e.g., <i>Kohler's Model of Transition Planning, Person-Centered Planning, National Secondary Transition Technical Assistance Center Evidence-Based Practices</i>) that can be applied to transition planning for students with an intellectual disability.	0.50	0.13	-0.03
knowB	Intervention application practices (e.g., backward chaining, simulations, simultaneous prompting) that can be applied to transition planning for students with an intellectual disability.	0.67	0.14	0.23
knowC	Disability-related legislation (e.g., <i>American with Disabilities Act, Individuals with Disabilities Education Act, Higher Education Opportunities Act</i>) that informs delivery of transition services for students with an intellectual disability.	0.71	-0.09	0.00
knowD	Evidence-based self-determination transition practices (e.g., " <i>Whose Future Is It Anyway?</i> " <i>The Self Directed IEP, Self-Determined Learning Model of Instruction</i>).	0.65	0.06	-0.10
knowE	Evidence-based community based instruction practices (e.g., linking math skills to purchasing skills, linking reading skills to safety skills).	0.74	0.01	-0.03
knowF	Evidence-based daily living transition practices (e.g., job-seeking skills, computer assisted instruction).	0.76	0.06	-0.08
knowG	Evidence-based behavioral transition interventions (e.g., social skills training, planning and organizational skills).	0.71	0.09	-0.04
knowH	School-based services (e.g., work-study programs, dual enrollment programs) available to students with an intellectual disability.	0.61	-0.03	-0.22
knowI	Post-school support systems (e.g., community-based education, supported employment) are introduced to students with an intellectual disability.	0.72	-0.10	-0.11

knowJ	Strategies for increasing families' knowledge and skills about transition-related issues and topics.	0.74	0.06	-0.02
knowK	Methods to increase joint (i.e., interagency, interdisciplinary) transition service delivery.	0.81	0.16	0.09
knowL	Methods for involving students with an intellectual disability in <i>all</i> components of transition services (e.g., student-directed individualized education programs).	0.81	0.04	0.00
trainA	I feel prepared to engage in the transition-related activities for students with an intellectual disability.	0.68	0.07	-0.17
trainB	I have received sufficient training (e.g., graduate coursework, professional development, school in-service) to provide transition services at the high school level for students with an intellectual disability.	0.69	-0.05	-0.16
trainC	I do not feel prepared to help facilitate person-centered planning for students with an intellectual disability.	0.47	-0.10	-0.15
trainD	I have received sufficient training in career development theory.	0.43	0.08	-0.17
trainE	I feel prepared to conduct transition assessments for students with an intellectual disability (i.e., collecting data on strengths, needs, preferences, and interests as they relate to the demands of current and future educational, living, and community environments).	0.45	0.02	-0.25
trainF	I have not received sufficient training in transition-related legislative practices regarding students with an intellectual disability.	0.39	-0.17	-0.23
trainG	I do not have training in transition services for students with an intellectual disability.	0.40	-0.08	-0.30
trainH	I have experience providing transition services for students with an intellectual disability.	0.61	0.06	-0.20
dispA	It is important for me to be involved in transition planning for students with an intellectual disability.	0.10	0.67	-0.15
dispB	Transition tasks are not an administrative priority for me to be involved.	0.04	0.30	-0.11
dispC	It is appropriate for school psychologists to perform transition-related activities for students with an intellectual disability.	0.11	0.57	-0.09
dispD	School psychologists should participate in transition planning for high school students with an intellectual disability.	0.04	0.70	-0.12

dispE	Other job duties (e.g., assessments, classroom observations, counseling cases) prevent my participation in transition tasks.	-0.02	0.10	-0.16
dispF	I have a professional interest in performing transition-related activities for students with an intellectual disability.	0.04	0.56	-0.06
dispG	Transition tasks are not my responsibility.	0.03	0.53	0.04
imptA	Providing information (e.g., consultation, in-services) for school staff on transition issues (e.g., legal aspects, research-based transition strategies).	0.11	0.69	0.06
imptB	Serving as a resource to families on transition issues (e.g., advocacy skills, post-school services).	0.14	0.70	0.09
imptC	Collaborating with families, school staff, and community agencies to increase cooperation in and coordination of transition services.	0.16	0.69	0.02
imptD	Addressing transition-related concerns when conducting (re)evaluations for students with an intellectual disability.	0.03	0.50	-0.14
imptE	Conducting transition-focused comprehensive evaluations (e.g., strengths/needs in vocational, academic, interpersonal, adaptive areas) for students with an intellectual disability.	-0.02	0.50	-0.29
imptF	Using a variety of assessments (e.g., interviews, standardized tests, work samples, curriculum based assessments, behavioral observations) to determine post-school interests and goals for transition planning.	-0.15	0.51	-0.29
imptG	Providing suggestions (via the psychoeducational report, individualized education program meeting, etc.) for post-school services and goals based on evaluation results.	0.06	0.58	-0.16
imptH	Developing transition-related interventions (e.g., social skills training, collaborative work experiences, self-advocacy skills) that help students with an intellectual disability successfully move from school to post-school settings.	0.09	0.77	0.08
imptI	Evaluating students' progress toward completing transition goals.	-0.14	0.72	-0.14
imptJ	Assessing treatment integrity of transition-related interventions.	0.04	0.79	0.07
imptK	Participating in meetings (e.g., individualized education program, transition, reevaluation) with students and their families where transition services are discussed.	0.08	0.70	-0.09

imptL	Providing information to students with an intellectual disability to help them understand transition planning and their role(s) and legal rights.	0.01	0.76	-0.09
perfmA	Provide information (e.g., consultation, in-services) for school staff on transition issues (e.g., legal aspects, research-based transition strategies).	0.31	0.15	-0.40
perfmB	Serve as a resource to families on transition issues (e.g., advocacy skills, post-school services).	0.27	0.12	-0.50
perfmC	Collaborate with families, school staff, and community agencies to increase cooperation in and coordination of transition services.	0.20	0.14	-0.55
perfmD	Address transition-related concerns when conducting (re)evaluations for students with an intellectual disability.	0.13	-0.08	-0.73
perfmE	Conduct transition-focused comprehensive evaluations (e.g., strengths/needs in vocational, academic, interpersonal, adaptive areas) for students with an intellectual disability.	0.02	-0.02	-0.86
perfmF	Use a variety of assessments (e.g., interviews, standardized tests, work samples, curriculum based assessments, behavioral observations) to determine post-school interests and goals for transition planning.	0.02	0.09	-0.82
perfmG	Provide suggestions (via the psychoeducational report, individualized education program meeting, etc.) for post-school services and goals based on evaluation results.	0.09	-0.02	-0.82
perfmH	Develop transition-related interventions (e.g., social skills training, collaborative work experiences, self-advocacy skills) that help students with an intellectual disability successfully move from school to post-school settings.	0.18	0.15	-0.51
perfmI	Evaluate students' progress toward completing transition goals.	-0.04	0.18	-0.63
perfmJ	Assess treatment integrity of transition-related interventions.	0.11	0.16	-0.45
perfmK	Participate in meetings (e.g., individualized education program, transition, reevaluation) with students and their families where transition services are discussed.	0.09	0.24	-0.45
perfmL	Provide information to students with an intellectual disability to help them understand transition planning and their role(s) and legal rights.	0.16	0.15	-0.59

APPENDIX B

SUMMARY OF ITEM MEAN SCORES AND STANDARD DEVIATIONS (N = 176)

Variable	Mean	Std. Deviation
AScale	3.14	0.53
dispA	3.01	0.75
dispC	3.19	0.62
dispD	3.21	0.66
dispF	2.89	0.80
dispG	2.80	0.94
imptA	2.94	0.81
imptB	3.19	0.76
imptC	3.18	0.77
imptD	3.61	0.63
imptE	3.38	0.74
imptF	3.43	0.71
imptG	3.48	0.65
imptH	3.17	0.77
imptI	2.64	0.87
imptJ	2.76	0.87
imptK	3.32	0.70
imptL	3.21	0.79
KScale	2.48	0.62
knowA	1.77	0.89
knowB	2.03	1.01
knowC	3.20	0.68
knowD	1.98	0.92
knowE	2.74	0.82
knowF	2.64	0.79
knowG	2.95	0.79
knowH	2.84	0.78
knowI	2.57	0.83
knowJ	2.47	0.79
knowK	2.22	0.84
knowL	2.42	0.86
trainA	2.54	0.90
trainB	2.16	0.92
trainC	2.51	0.95
trainE	2.68	0.93
trainH	2.51	0.97

BScale	2.16	0.68
perfmB	2.10	0.80
perfmC	2.05	0.81
perfmD	2.61	0.93
perfmE	2.31	0.96
perfmF	2.38	1.00
perfmG	2.58	0.99
perfmH	1.94	0.87
perfmI	1.61	0.81
perfmJ	1.50	0.72
perfmK	2.69	0.86
perfmL	2.04	0.93

Note: Items scores were based on a 1-4 Likert scale

1 = lowest (i.e., none/unfamiliar, strongly disagree, not important, never)

2 = second lowest (i.e., limited, somewhat disagree, somewhat unimportant, seldom)

3 = second highest (i.e., moderate/some, somewhat agree, somewhat important, often)

4 = highest (i.e., extensive, strongly agree, very important, always)