

10-17-2016

# Parent and Teacher Perceptions of Employment Readiness of Students with Intellectual Disabilities

Lindsay Ann McGuirk

Follow this and additional works at: <https://ddc.duq.edu/etd>

---

## Recommended Citation

McGuirk, L. (2016). Parent and Teacher Perceptions of Employment Readiness of Students with Intellectual Disabilities (Doctoral dissertation, Duquesne University). Retrieved from <https://ddc.duq.edu/etd/53>

This Worldwide Access is brought to you for free and open access by Duquesne Scholarship Collection. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Duquesne Scholarship Collection. For more information, please contact [phillips@duq.edu](mailto:phillips@duq.edu).

PARENT AND TEACHER PERCEPTIONS OF EMPLOYMENT READINESS OF  
STUDENTS WITH INTELLECTUAL DISABILITIES

A Dissertation

Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for  
the degree of Doctor of Philosophy

By

Lindsay A. McGuirk, M.S.Ed.

December 2016

Copyright by  
Lindsay A. McGuirk

2016

**DUQUESNE UNIVERSITY**  
**SCHOOL OF EDUCATION**  
**Department of Counseling, Psychology, and Special Education**

*Dissertation*

Submitted in partial fulfillment of the requirements  
For the degree of Doctor of Philosophy (Ph.D.)

**School Psychology Doctoral Program**

*Presented by:*

Lindsay A. McGuirk  
M.S.Ed. Child Psychology, Duquesne University, 2009  
B.S. Biobehavioral Health, Pennsylvania State University, 2007

**October 17, 2016**

PARENT AND TEACHER PERCEPTIONS OF EMPLOYMENT  
READINESS OF STUDENTS WITH INTELLECTUAL DISABILITIES

*Approved by:*

\_\_\_\_\_, Chair  
Ara J. Schmitt, Ph.D.  
Associate Professor  
Department of Counseling, Psychology, and Special Education  
Duquesne University

\_\_\_\_\_, Member  
Kara E. McGoey, Ph.D.  
Associate Professor  
Department of Counseling, Psychology, and Special Education  
Duquesne University

\_\_\_\_\_, Member  
Carol S. Parke, Ph.D.  
Associate Professor  
Department of Educational Foundations and Leadership  
Duquesne University

## ABSTRACT

### PARENT AND TEACHER PERCEPTIONS OF EMPLOYMENT READINESS OF STUDENTS WITH INTELLECTUAL DISABILITIES

By

Lindsay A. McGuirk

December 2016

Dissertation supervised by Ara J. Schmitt, Ph.D.

While growing, the current research field of transition planning and outcomes for students with intellectual disabilities is still lacking, particularly regarding employment. One possible reason for transition discord could be a lack of consensus between transition team members, particularly family members and teachers. The present study explored parent and teacher agreement of students with intellectual disabilities and their adaptive skills related to employment, while also investigating the effects of IQ. Results indicated strong agreement regarding parents and teachers perceptions of students with intellectual disabilities and their abilities related to employment readiness. In addition, group differences were not found when controlling for IQ score. This study adds to the transition literature base, as well as parent and teacher agreement regarding a student's skills. Implications of these findings and recommendations for future research are also discussed.

## DEDICATION

To my parents, who have instilled in me the ambition and motivation to pursue my doctorate and always made sure that I knew no goal was out of reach. I could not have endured this journey without the two of you and am not able to express my gratitude enough for the support you have provided. To David and Lauren, who have provided unwavering encouragement and humor when I needed it the most. I am so fortunate to not only call you “brother” and “sister”, but also two of my best friends. Finally, to my sister, Nicole – You were and always will be my inspiration to pursue a career working with children with developmental disabilities and their families. You will never know the amount of strength and motivation I gain from you on a daily basis. It is because of you that I cannot imagine another career path, which has become my passion. Witnessing the obstacles you have overcome and successes you have achieved (however small) continues to be my driving force to advocate for those children who do not have a voice.

## ACKNOWLEDGEMENT

I would like to express my gratitude to my committee members, Dr. Ara Schmitt, Dr. Kara McGoey, and Dr. Carol Parke for their support and guidance throughout my dissertation journey. Their knowledge and dedication has been essential in this achievement. I would like to extend a special thanks to my committee chair, Dr. Ara Schmitt, who provided me with the drive and motivation to meet my goals even when obstacles seemed too great to overcome.

I would also like to extend my sincere my gratitude to my clinical supervisors over the years, particularly those at The Children's Institute and Nationwide Children's Hospital. You have all had such an immense impact on me both personally and professionally. Your individual influences have and will continue to shape my career as a psychologist.

Finally, to my family and friends, who have never stopped providing the encouragement and support I have needed throughout my graduate career.

## TABLE OF CONTENTS

Abstract.....	iv
Dedication.....	v
Acknowledgement.....	vi
List of Tables.....	viii
Chapter I: Introduction.....	1
Chapter II: Literature Review.....	9
Chapter III: Methods.....	40
Chapter IV: Results.....	49
Chapter V: Discussion.....	57
References.....	74

## LIST OF TABLES

Table 1: Frequency and Percentage of Students by Gender.....	49
Table 2: Age Characteristics of Students for Whom Questionnaires Were Completed.....	49
Table 3: Frequency and Percentage of Students by Special Education Classification.....	50
Table 4: Severity of Intellectual Disability.....	51
Table 5: Parent and Teacher Ratings By Mean and Standard Deviation.....	51
Table 6: Pearson Correlations of Variables.....	52
Table 7: Multivariate Tests for Research Question 2.....	54
Table 8: Tests of Within Subjects-Effects for Research Question 2.....	54
Table 9: Multivariate Tests for Research Question 3.....	55
Table 10: Tests of Within Subjects-Effects for Research Question 3.....	55

## Chapter I: Introduction

### **Introduction**

With the advent of special education law, the transition planning process has received increased attention. Transition planning is particularly important given the diminished services after the school years. As a result, youth with disabilities are more likely than their counterparts to endure struggles and barriers during the transition process and into adulthood (Sittlington & Frank, 1990). Although the research is limited concerning the specific post-school outcomes, past studies have indicated that students with disabilities achieve post-school outcomes at a much lower rate than do their non-disabled peers (Mithaug, Horiucki, & Fanning, 1985; Sittlington & Frank, 1990). Often times, these post-school outcomes are negative, and are found in all aspects of the individual's life, including post-secondary education, employment, and living arrangements (Gil-Kashiwabara, Hogansen, Geenen, Powers, & Powers, 2007; Salmon & Kinnealey, 2007). Given that these three aspects of one's functioning determine a successful transition to adulthood, a considerable discrepancy in skills exists between students with disabilities and their peers without disabilities (Salmon & Kinnealey, 2007).

Employment in any job includes attainment of the particular knowledge base, skills and commitment of the individual, and whether the individual can satisfy the requirements and conditions of the job (Piggot & Houghton, 2007). For students with disabilities who move onto employment, personal independence, self-sufficiency, and a feeling of self-fulfillment are essential (National Center on Secondary Education and Transition, 2004). Achieving these goals can be difficult, as the manifestations of a disability may become an obstacle. However, if thoughtfully composed transition plans are implemented through collaboration and cohesiveness of IEP and transition team members, individuals with disabilities are more likely to overcome the

obstacles presented to them to achieve their optimal potential and become productive members of society, including through employment.

### **Significance of the Problem**

Previous research has indicated the importance of employment of individuals with disabilities. The present study aims to extend the literature base to specifically focus on adolescence with intellectual disability, which is characterized as limitations in both cognitive functioning and adaptive behavior functioning. Employment studies of post-school outcomes for young adults with intellectual disability have demonstrated high levels of unemployment and underemployment (Braddock, Hemp, & Rizzolo, 2008; Butterworth, Smith, Hall, Migliore, & Winsor, 2009; Migliore & Butterworth, 2008; Simonsen, 2010; Weathers & Wittenburg, 2009). Even with this knowledge, research has documented that post-school outcomes for students with intellectual disability have shown very little improvement over time (Hart et al., 2006; Test et al., 2006). In a study of post-school employment outcomes for high school graduates with intellectual disability receiving long-term supports, Simonsen (2010) found that only 39.9% of 338 graduates were engaged in paid work 1 year after exiting high school. Of those who worked, only 14.2% were employed in individual positions and paid minimum wage, and the remaining individuals were engaged in supported employment and received subminimum wages. The negative outcomes for students with intellectual disabilities and employment lend questions of how transition planning and processes are failing.

With the responsibility of schools to monitor post-secondary outcomes of students with disabilities, increased emphasis has been placed on vocational goals in students' Individualized Education Programs (IEPs) and transition plans. However, research has documented that barriers often occur during transition planning for students with disabilities, which negatively

impact the implementation of vocational goals, as well as potential employment outcomes. For instance, parents often take a passive role during the transition process and often find it difficult to contribute to the development of transition plans (Stroggilos & Xanthacou, 2006), which in turn impacts implementation of transition goals in the home environment. In addition, limited agreement between parents and school staff can be associated with low levels of implementation of goals and compliance with recommendations (Human & Teglassi, 1993; Rogers et al., 1992; Simeonsson, Edmondson, Smith, Carnahan, & Bucy, 1995). Although parents and schools may not always have the same perceptions or visions for students with disabilities, collaboration and accordance between team members is fundamental for transition planning and to achieve optimal outcomes for students (Lane, Carter, & Sisco, 2012).

### **Theoretical Basis and Supporting Literature**

The theoretical basis of transition planning addresses all factors of a child from individual characteristics (e.g., self-efficacy and self-determination) to systemic aspects (interaction between home and school). These characteristics are essential to consider when developing and implementing transition plans. In addition, transition planning incorporates the input of those who work closely with the child, particularly school staff and family members. As with all service delivery groups, transition teams must have specific roles represented (e.g., parent, special educator, etc.), focused goals, and functional procedures to achieve a particular purpose (Brown, 2000). In other words, a successful transition team must achieve group cohesiveness in that members agree with outlined goals and believe that those goals can be achieved (Baron, Branscombe, & Byrne, 2008). Most importantly, research has demonstrated that ongoing communication and agreement about expectations for students between the two parties results in higher levels of success for students (Milsom, 2007). However, the level of agreement among

group members may be minimal due to differing of opinions (List, 2000). As previously referenced, the purpose of transition planning is to efficiently move the student onto opportunities after school in a variety of areas. However, if disagreement surrounding the process or expectations for the student is present, the transition plan cannot serve its intended purpose.

### *Improving Employment Outcomes for Youth with Disabilities*

Individuals with disabilities experience a host of barriers concerning participation in work-based learning opportunities, employment, and careers (National Council on Disability, 2000). Legal safeguards from discrimination in the legislature, including the Americans with Disabilities Act (ADA), the Individuals with Disabilities Education Act (IDEA), and the Workforce Investment Act (WIA), allow individuals with disabilities to better promote their skills and advocate for necessary work adaptations (Luecking & Mooney, 2002). However, despite these federal and workplace advances, the reality of the matter is that post-school unemployment remains disproportionately high for youth with disabilities (Blackorby & Wagner, 1996). This begs the question: How can we better prepare students with disabilities for post-school employment while they are still enrolled in school and receiving beneficial services and supports? One proposed answer to this question is to ensure that students' transition goals in their Individualized Education Plan (IEP) are realistic and appropriately implemented. To ensure that transition goals accurately depict a student's functioning, those who work closely with the student, in particular parents and school staff, must be on the same page.

### *Parent and Teacher Perceptions of the Transition Process*

Parents of children with disabilities compared to parents of children without disabilities have reported to expect transition to be more challenging for their child (Whitney-Thomas &

Hanley-Maxwell, 1996). However, they are said to value and appreciate transition services provided by the school (Powers, Geenen, & Powers, 2009). Powers and colleagues (2009) determined that parents identified the following as the three most vital goals to achieve in the future: finishing high school, having health insurance, and having a good doctor. These authors also found that parents perceived self-care, self-advocacy, and self-determination as important skills for youth to learn and reach competence during the transition into adulthood. However, school staff may not always have the same objectives in mind for their students with disabilities.

Goupil and colleagues (2002) investigated cohesiveness between parents and school staff and found that both parties are generally satisfied with the transition planning process and strive for more student-centered meetings and plans. However, research indicates that perceptions of the transition process of the two parties is dissimilar in that parents perceive transition as a continuation of the past, whereas school staff view it as more future-oriented (Clegg, Sheard, Cahill, & Osbeck, 2001). Furthermore, some parents and school staff struggle to engage in ongoing communication due to differences of opinion (Clegg et al., 2001). Although parents express a desire to be involved in the transition process, most do not deem their role as an important one (Hanley-Maxwell, Whitney-Thomas, & Pogoloff, 1995). This could, in part, be due to limited education of the transition process and awareness of resources, which has also been identified as a concern by school staff.

In terms of employment and community options, parents and school staff expressed concern and a lack of knowledge of opportunities for students with disabilities (Goupil, Tassé, Garcin, & Doré, 2002). Although teachers report a general understanding of transition planning, they often feel unprepared or only somewhat prepared to plan for and deliver transition services (Benitez, Morningstar, & Frey, 2008; Knott & Asselin, 1999; Wolfe, Boone, & Blanchett, 1998).

In addition to inadequate competencies in the general transition process and implementation of transition objectives, teachers report insufficient knowledge in the areas of transition assessment, interagency coordination, community-based and independent living curriculum areas, and employment and vocational programs (Knott & Asselin, 1999). Many teachers also feel dissatisfied with the training related to collaboration with other groups including: coordinating with outside agencies, providing information to families about agencies, and participating in community-level planning (Benitez et al., 2008).

Of concern indicated in research is a lack of congruence between transition objectives, goals outlined in students' IEPs and transition plans, and the skills perceived as important in the work context (McCrea, 1993). Often, this may not be addressed in the transition planning process. By comparing perceptions of parents and teachers concerning students' adaptive functioning of employment, more relevant employment goals in the transition plan can be better developed and implemented.

### **Problem Statement**

The transition process can be a long and arduous one, especially for students with an intellectual disability. Parents and school staff have expressed concern and uncertainty with the transition process, especially in preparing students for transition to employment (Benitez et al., 2008; Goupil, Tassé, Garcin, & Doré, 2002; Knott & Asselin, 1999; Wolfe, Boone, & Blanchett, 1998). While past and current literature examines general perceptions of the transition process between the two groups, little has been done to assess if there is agreement of a student's functioning across groups. Without agreement between the two parties concerning student functioning, unrealistic and inaccurate transition goals may be developed resulting in improper implementation and decreased post-school success in employment.

The purpose of the present study was to expand the current literature base by examining parent and teacher perceptions and agreement of students' adaptive functioning in the area of employment readiness. Furthermore, students' intellectual functioning will be accounted for in order to evaluate the effect of severity of an intellectual disability diagnosis, and its impression on adaptive functioning of employment.

### **Research Questions and Hypotheses**

For the purpose of this study, parent and teacher perceptions of student functioning in the area of employment were investigated while controlling for IQ score. To this end, the following research questions were investigated:

Research Question 1: What are the relationships among parent ratings of students' abilities on the four domains (Work Habits/Attitudes, Interpersonal Relations, Cognitive Skills, and Work Performance Skills) of the Becker Work Adjustment Profile: Second Edition (BWAP: 2), teacher ratings of students' abilities on the four domains of the BWAP: 2, and student IQ scores?

Hypothesis 1: The relationship between the variables of parent ratings on the domains of the BWAP: 2, teacher ratings on the domains of the BWAP: 2, and students' IQ scores will be moderately correlated.

Research Question 2: Are there significant group differences between parent and teacher ratings of student abilities on the BWAP: 2?

Hypothesis 2: Parent ratings will result in significantly higher scores on the four domains of the BWAP: 2.

Research Question 3: Are there significant group differences between parent and teacher ratings of student abilities on the BWAP: 2, even when controlling for students' IQ scores?

Hypothesis 3: Significant group differences exist on the four domains of the BWAP: 2, even when controlling for the effects of IQ.

### **Summary**

It is clear that developing employment readiness skills and exploring employment options for students with intellectual disabilities is a vital part of the transition process. Planning during this period while the student is of transition age proves to be critical to ensure positive post-school outcomes regarding employment. However, barriers encountered during the transition process can impede progress and thus, limit positive employment outcomes. Research has documented one of these barriers as being differences between parents and teachers perceptions of a student's skills. The aim of this study is to extend the literature base to examine students with intellectual disabilities, specifically. More specifically, potential differences and disagreement between the two parties at a student's skill level will be examined and if a student's severity of intellectual disability creates more or less congruency.

## Chapter II: Literature Review

### **Historical Background**

Prior to the 1960's, the focus of schools was based solely on student's academic success, as measured in proficiency in terms of reading, writing, and math. With the advent of disability and special education-related legislation, it was soon determined that a child's educational experience also comprises his or her social-emotional development. Further educational legislation asserted that, in addition to students' proficiency in academics and adequate social-emotional functioning, schools are held accountable for providing supports and services in order to help students become independent adults after they leave their educational placement. Thus, schools are not only responsible for students' academic and social-emotional development during their school years, but also their transition to post-secondary education and work, which is a vital responsibility to ensure appropriate post-secondary success for all students.

Post-secondary success encompasses many more aspects than just further education or employment, and looks at all aspects of daily functioning. Baker and Geiger (1988) identified the most critical competencies that warrant successful transition to adulthood including communication with families, interagency collaboration, and ongoing consultation. Marn and Koch (1999) expanded these three general goals and identified eight central missions to accomplish when moving from adolescence into life as a young adult: 1) separate from family; 2) construct support network beyond family; 3) refine social skills; 4) take on greater responsibility for decision-making; 5) learn to be responsive to feedback; 6) establish identity; 7) assume a sexual role and; 8) make vocational choices. For many students, the transition from childhood to adulthood opens a doorway to autonomy and economic self-sufficiency. For others, the idea of transition is marked by barriers that include the onset of social isolation and financial

dependence (Salmon & Kinnealey, 2007). For youth with disabilities, the latter is often the reality as these individuals and their families strive to reach the autonomy and independence that is achieved by individuals without disabilities, who have non-comparable obstacles. Therefore, the goals and missions as identified above are achieved much more on an individualized basis for youth with disabilities depending on his or her level of functioning.

In 1986, the Centre for Educational Research and Innovation defined transitions as critical events or phases in the life of individuals during which significant developmental, social, and/or economic changes are likely to occur. One of the conditions of schools taking responsibility for students' transition needs was that all students would fall under that responsibility, including those with disabilities. In terms of children with disabilities, McNultry (1989, p. 159) described transition services as a "carefully planned, outcome-oriented process, initiated by the primary service provider, who establishes and implements a written multiagency service plan for each child moving to a new program." Previously, schools were not expected to be concerned about the non-academic achievement outcomes of students after graduation from high school. When the U.S. Department of Education first focused on improving transition outcomes of youth with disabilities in 1984, this traditional approach was re-conceptualized as a federally mandated bridge from school to young adulthood that now fell on the shoulders of schools (Hogansen, Powers, Geenen, Gil-Kashiwabara, & Powers, 2008).

In 1990, the Individuals with Disabilities Education Act (IDEA) mandated that schools are to develop formal transition planning services to be included in students' educational plans to support students with disabilities as they prepare for post-secondary services (Milsom, 2007). Even more recently, the Amendments to IDEA in 1997 and 2004, require that a formal transition plan be included and in effect in the child's IEP by the age of 16 (Williams-Diehm & Lynch,

2007). However, in certain instances, some transition activities even begin discussion at age 14. With the reauthorization of IDEA in 2004, Congress provided clear guidelines of the delivery of transition services asked of schools:

The term ‘transition services’ means a coordinated set of activities for a child with a disability that – (A) is designed to be a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child’s movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing adult education, adult services, independent living, or community participation; (B) is based on the individual child’s needs, taking into account the child’s strengths, preferences, and interests; (C) includes instruction, related services, 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 ([34 CFR 300.43 (a)] [20 U.S.C. 1401(34)]).

The three core areas of education, employment, and living addressed in transition planning are often referred to as “post-school outcomes” and are the driving force behind IEPs of transition-age children. Under the Individuals with Disabilities Education Improvement Act (IDEIA, 2004), planning and services must be included in the IEP, and be reviewed every year (Roberts, 2010). Furthermore, the act states that the primary intention of the free, appropriate public education guaranteed to youth with disabilities is to “prepare them for further education, employment, and independent living” [34 CFR 300.1(a)] [20 U.S.C. 1400(d)(1)(A)].

Considering these three areas determine a successful transition, a sizeable discrepancy exists between students with disabilities and their peers without disabilities (Salmon &

Kinnealey, 2007). For example, the Participation and Activity Limitation Survey (PALS) conducted by Statistics Canada (2001) indicated students with disabilities completed high school at a much lower rate compared to their non-disabled peers and were employed at a much lower rate as compared to their non-disabled peers. When examining these three domains of transition, teams must also consider personal characteristics of the individual that are specific to him or her. Thus, IDEA puts the responsibility on schools to focus on not only vocational, educational, and residential outcomes, but quality of life and self-determination factors in a student's life (Dolyniuk, Kamens, Corman, DiNardo, Totaro, & Rockoff, 2002). With the passing of IDEA and the subsequent additions to the law, transition planning became more individualized in that student's goals, needs, and necessary supports must be established in transition plans.

Specifically, the transition planning process is expected to take into account the child's preferences, interests, and needs, and above all his or her strengths (Konrad, Walker, Fowler, Test, & Wood, 2008). Furthermore, in order for a transition plan to consider specific skills and needs of the child, goals of the IEP must be realistic and appropriate. Along with mandated federal laws requiring school districts to consider transition as part of a child's educational planning, progress monitoring must be in place to keep track of the outcomes, positive or negative, following students post their secondary education experiences. Therefore, schools must collect data that identify those outcomes.

In conjunction with the reauthorization of IDEA, the U. S. Department of Education through the Office of Special Education Programs, required states to develop State Performance Plans around 20 indicators on which schools submit annual data. Even though the transition process is now mandated by federal and state legislation, some states are still struggling to meet those guidelines. Recently, the Commonwealth state of Pennsylvania was cited for their

management of transition plans, which has come to be known as Indicator 13 and Indicator 14.

Indicator 13 addresses the appropriateness of IEP goals, among other transition features:

“Percent of youth aged 16 and above with an IEP that includes appropriate and measurable post-secondary goals that are annually updated and based upon an age-appropriate transition assessment, transition services, including courses of study, that will reasonably enable the student to meet those post-secondary goals, and annual IEP goals related to the student’s transition services needs...” (20 U.S.C. 1416(a)(3)(B)).

Provisions in the legislation to document the effects of transition planning of students became known as Indicator 14 of the State Performance Plans (SPP) on Effective Transition. Indicator 14 of IDEA of the Office of Special Education Programs (OSEP) and the SPP is the:

“Percent of youth who had IEPs (Individualized Education Plans), are no longer in secondary school and who have been competitively employed, enrolled in some type of post-secondary school, or both, within one year of leaving high school” (20 U.S.C. 1416(a)(3)(B)).

In order to address this, Indicator 14 requires states to collect post-secondary outcome data on students with disabilities one year after leaving school. This includes students who graduate, dropout, or age out. This addition in federal law thereby magnifies the significance of connecting transition planning and services to student post-school success (Morningstar et al., 2010).

As mentioned, schools are not only responsible for developing transition plans that address academic competency, but also skill training that prepares students with disabilities for transition from school to adult life (Ofoegbu & Azarmmsa, 2010). In fact, Dowdy & Evers

(1996) claim that the degree of success in adult life for individuals with disabilities is strongly determined by the quality of education or skill training received during the school years.

### **Transition Planning**

Transition planning is particularly difficult for students with disabilities due to a greater likelihood of encountering barriers and obstacles in the pathway to adulthood (Powers, Geenen, & Powers, 2009). However, since the passing of legislation that addresses transition, this process has finally become required, organized, and individualized for all children with a special education diagnosis. Transitioning from school and into adulthood could have a variety of cognitive and social-emotional outcomes for adolescents with disabilities. They include movement from one or more phases of special education into systems and institutions that provide services to people with disabilities. Transition could mean transfer from school to work, from parental home to other living arrangements, and from dependence on multiple service systems and providers to relative independence (Mallory, 1996). Nonetheless, transition is not just comprised of institutional and setting changes, but psychological adjustments as well (Clegg, Sheard, Cahill, & Osbeck, 2001).

Considering that federal requirements now expect schools to provide a thorough and individualized transition plan, along with progress monitoring of post-secondary outcomes for students with disabilities, school districts increasingly emphasize the importance of meticulous and accurate planning for transition. Mallory (1995) asserted that formal transition planning should require the commitment of human resources and follow-up to assess the extent of change that occurred. More specifically, best practices for individualized transition planning should include: a.) collaboration between community resources and services; b.) assessment of the student's work skills; c.) teaching of social skills; d.) education on available and appropriate

employment options; e.) opportunity for students to have lucrative employment during high school; f.) preparation of a formal transition plan, and; g.) direct participation of families in the transition planning process (Kohler, 1993). O'Brien (2006) argues that such planning ought to be inclusive of all aspects of the child. More specifically, this includes considering all indications of skills, progress, disabilities, intellectual and social-emotional functioning, strengths, and areas of potential. To capitalize on all aspects of the child, school personnel can develop programs targeting general skills, knowledge, and behaviors that seem to be helpful across a variety of transition contexts (e.g., social skills, organizational skills, communication skills, self-awareness) (Milsom, 2007). Moreover, research has indicated that psychoeducational counseling can help students with disabilities learn critical transition skills. Milsom and colleagues (2004) found that a psychoeducational group successfully helped students with learning disabilities increase awareness of their own disabilities, as well as post-secondary school expectations.

Though research and plan implementation have been making considerable and consistent strides in the last two decades, there still remains a partial attitude of one-size-fits-all transition plans, regardless of the student's skills and needs. While many of the skill and knowledge areas necessary for successful transition for students with disabilities are similar, the individual needs of each student must be taken into consideration when planning transition interventions and goals (Milsom, 2007). Due to this shortcoming, many transition plans of students with disabilities are incomplete, unrealistic, or unsuitable (Wells, Sandefur, & Hogan, 2003). Furthermore, in a study conducted by Freeze (1995), transition planning and programs were found to be uncoordinated, unrelated to the students' and their families' wishes, and lacking in breadth, creativity, and accountability. Unless the transition plan is well-planned, appropriate,

and complete, youth with disabilities will see fewer opportunities as adults (Florian, Dee, Byers, & Maudslay, 2000). In fact, when transition plans were analyzed, few were revealed to contain goals relating to the development of leisure skills and work-related skills (Goupil, Tassé, Garcin, & Doré, 2002). Transition studies have evaluated a general class of youth with disabilities, but not many have teased out individual differences, such as disability. For instance, most of the participants in transition studies have been individuals with mild disabilities (Clegg, Sheard, Cahill, & Osbeck, 2001; Mitchell, 1999; Ward and Thompson, 1997). Using such research to inform transition for people with all levels of disability poses problems in setting realistic goals, meeting the individual's needs, and partaking in planning that is based on the individual's strengths, weaknesses, and areas of potential (Hanley-Maxwell et al., 1995). Extensive preparation, conflicts between transition team members, and limited knowledge and resources cause setbacks in forming an individualized plan. Results from Goupil and colleagues' study (2002) revealed that the transition planning process requires extensive planning and preparation time. However, time is not the only barrier, as teachers feel unprepared to develop or implement the transition plans (Benitez et al., 2008). Issues, such as planning time and competency of the transition process need to be addressed and resolved, and therefore, the educational planning team must coordinate their efforts and time to assess all components of the child.

Roberts (2010) discusses topic areas to consider when developing a transition plan. These include, but are not limited to: (a) career exploration, (b) academic goal setting and preparation, (c) assessing and identifying learning styles, (d) self-advocacy skills, (e) reasonable accommodations, (f) academic supports, and (g) interagency collaboration. Career exploration can begin with self-assessment by exploring a student's personal and work values and skills. Once student's values and skills are established through self-assessment and vocational activities

(e.g., job shadowing, mentoring, and internships), involved professionals and family members can further help the individual narrow down career options. Once a career path is established, school personnel can work with the student and his or her family to align academic goals and preparations to the preferred career path. For example, for students who choose to pursue post-secondary education, peer tutoring and/or academic accommodations can be put in place to stay aligned with the specific goals. In conjunction with theories surrounding transition, self-advocacy skills are also an area that requires consideration during the transition planning process. Self-advocacy includes disclosing one's disability, understanding one's strengths and weaknesses, and requesting needs and supports that accommodate one's functioning in various contexts. By having students actively participate in transition meetings, they will be better able to identify and advocate for the necessary accommodations after they leave the school setting (Shore, 2010). However, the knowledge of accommodations and supports must begin in the school setting to transfer to other settings. These supports should be used throughout the student's school career and discussed with the student so they become familiar with what is available, the benefit of those supports, and the need to request those supports. As stated previously, interagency collaboration is essential to transition plans and outcomes. By bringing everyone to the table and defining roles and responsibilities, a more successful transition is likely to occur. Roberts (2010) affirms that by evaluating certain topic areas related to transition, beginning steps can be taken toward a student's successful transition.

By evaluating and discussing each aspect of the child's life presently and in the future, transition teams can expect more advantageous outcomes. Ward and Thompson (1997) acknowledge specific factors which mark successful transitions to adulthood in individuals with disabilities including, employment, independent living, economic self-sufficiency, post-

secondary education, adult role-taking, and social participation. Thus, transition factors need to be carefully planned in order to “minimize the stress involved for children and their families and in order to maximize the chances of the child being successful in the new environment” (Kemp & Carter, 2000, pp. 393). Furthermore, successful transition incorporates staff who consider past history of the person with a disability, and parents who establish a working partnership with school staff (Clegg, Sheard, Cahill, & Osbeck, 2001).

Although developing appropriate and individualized transition goals is an integral part of the transition process, the implementation of the plan to achieve these goals is the determining factor of transition outcomes. Therefore, school staff should place just as much emphasis on these goals as the other IEP goals. However, Benitez and colleagues (2008) found that special education teachers reported limited implementation of the transition plan. The development of appropriate transition goals, while important, does not translate to positive and successful transition outcomes if team members are not in agreement of the goals and if they are not implemented properly.

### **Structure of Transition Teams**

A unified transition team is essential for an operational transition plan to outline and prepare for student success after high school (Williams-Diehm & Lynch, 2007). These teams should work collectively to ensure that transition plans are effective and fitting for the student, and can provide practical post-school options and experiences. Transition teams consist of the parents, teachers, therapists, school psychologists, school administrators, caseworkers, and community liaisons. In addition, students should be an active participant in their own learning and transition planning. To do this, IDEA also certifies greater student involvement in the

planning of transition and requires that the child be invited to IEP meetings to consider post-secondary goals §300.320(b). [34 CFR 300.321(b)] [20 U.S.C. 1414(d)(1)(B)].

Each team member plays an essential role in the effectiveness and cohesiveness of the transition planning process. Parents work with the student's IEP team in planning goals and outcomes for their children with IEPs. Teachers, school therapists (e.g., speech therapist), and school psychologists who help to create the student's IEP should be vested partners in making sure that the IEP contains the student's interests and results of diagnostic measures, along with realistic transition services and accommodations that are attainable for the student. Vocational education or college staff members may also be present if the student has expressed an interest in going in either direction and has the academic capacity to be successful in post-secondary educational experiences. Occupational staff members who have been integral team members in working with the student should provide expert feedback on whether a student has current analytical skills to accomplish the intended transition plan and services. In addition, school counselors should have vested interest to provide counseling and career pathways for students with disabilities. The transition team plays a major role in providing effective preparation for students with disabilities, and an effective team with a well-prepared plan will provide a proactive transition for students with disabilities into the adult world.

Consultation and collaboration among school counselors, teachers, psychologists, post-secondary agencies, and parents is an integral and crucial part of the transition process to ensure the most appropriate and reachable goals. In fact, collaboration has been described as “one of the most important strategies in helping youth with disabilities move successfully from school into employment and adult life” (Luecking & Crane, 2002, p. 1). By all personnel collaborating with the child’s needs and goals in mind, specific and necessary services can be provided,

timelines can be specified, and persons responsible for implementing services can be designated (Roberts, 2010). Furthermore, the transition team can achieve more meaningful outcomes when they are informed of the supports and constraints at all contextual levels (Salmon & Kinnealey, 2007). All members of the transition team should be provided with ample time and the resources to obtain the knowledge necessary to have a functioning and meaningful role on the team. In addition, transition teams should strive not just to counsel families, but to share the weight of care and transition change (Clegg, Sheard, Cahill, & Osbeck, 2001). By school staff and professionals aiding parents through this process, they will be more knowledgeable of supports and services and become more of an advocate for their child, instead of just another form of moral support. In particular, research emphasizes that parents must possess a sense of empowerment and involvement in the planning of their child's transition (Dunst, Trivetter, & Deal, 1994). That said, researchers have found that the active participation of parents in the transition process is minimal (Grigal, Neubert, Moon, & Graham, 2003; Martin, Marshall, & Sale (2004).

Students have also been found to have limited participation in their transition planning. For successful transition to occur, students must have a voice and be involved in transition decisions (Thoma, Held, & Saddler, 2002). To increase this participation, the following strategies can be employed (Pearpoint, O'Brien, & Forest, 1993; Freeze, 1995):

- Preview the meeting with the student
- Help the student prepare for the meeting (e.g., use an organizer)
- Involve the student in deciding who to invite and in sending out invitations
- Choose a comfortable, relaxed setting
- Think of the meeting as a celebration

- Eliminate interruptions
- Show respect for student choice and self-determination
- Avoid rejecting the student's dreams and goals because the team may feel they are unreasonable (create opportunities for the student to discover this themselves)
- Speak the student's language (use images, symbols, pictures, etc.)
- Bring samples of the student's work to the meeting
- Avoid technical jargon

By taking a person-centered planning approach students can learn to make decisions and take more of a responsibility for their education (Milsom, 2007).

### **Transition Outcomes of Children with Disabilities**

As students with disabilities leave the school setting and move onto adult life, little is known about their outcomes compared to peers without disabilities. In general, however, past research has shown that students with disabilities achieve positive post-school outcomes at a much lower rate than do their non-disabled peers (Mithaug, Horiucki, & Fanning, 1985; Sittlington & Frank, 1990). Since the 1980s, researchers have been trying to answer the question of how to improve post-school outcomes for students with disabilities. Test and colleagues (2009) attempted to answer this question in their systematic review of secondary transition predictors for improving these outcomes. These researchers found that of 16 evidence-based in-school predictors, inclusion in general education, paid employment/work experience, self-care/independent living skills, and student support, predicted improved outcomes in education, employment, and independent living. Other predictors related to improved post-school outcomes included interagency collaboration, self-advocacy/self-determination, transition programs, and social skills.

Gil-Kashiwabara and colleagues (2007) argue that students with disabilities are often marginalized not only because of their disability, but also when it comes to transition planning, and therefore, transition outcomes. Research demonstrates that individuals with disabilities are more susceptible to negative outcomes, regarding transition (Gil-Kashiwabara et al., 2007; Salmon & Kinnealey (2007). These outcomes include not just external, environmental changes, but internal, psychological changes as well. Successful transition into adulthood for youth with disabilities often requires (1) systematic planning over several years, (2) careful attention to the development of essential skills, (3) assistance in the transition process, and (4) ongoing support in adulthood (Thoma et al., 2002).

#### *Mental Health and Interpersonal Outcomes*

In a retrospective study done by Zetlin and Turner (1985), only a third of the students with disabilities studied were found to have achieved emotional autonomy, which is characterized as turning to their parents less often for assistance and/or decision-making. An additional third continued to be emotionally dependent on parents, regardless of living independently. This is of concern, as many transition teams tend to concentrate more on the tangible and outward factors of transition, and disregard the attainment of autonomy and independence (Baker, 1991).

#### *Employment Outcomes*

As evidenced above, individuals with disabilities experience a host of barriers concerning participation in work-based learning opportunities, employment, and careers (National Council on Disability, 2000). Legal safeguards from discrimination in the legislature, including the Americans with Disabilities Act (ADA), the Individuals with Disabilities Education Act (IDEA), and the Workforce Investment Act (WIA), allow individuals with disabilities to better promote

their skills and advocate for necessary work adaptations (Luecking & Mooney, 2002). However, despite these federal and workplace advances, the reality of the matter is that post-school unemployment remains disproportionately high for youth with disabilities (Blackorby & Wagner, 1996).

Employment has been described as influencing certain perceptions of life and determining if a person has a boring and depressing or challenging and self-fulfilling life (Bandura, 1997). Employment of any job includes attainment of the particular knowledge, skills and commitment of the individual, and whether the individual can satisfy the requirements and conditions of the job (Piggot & Houghton, 2007). For students with disabilities who move onto employment, it is important that they gain a sense of personal independence, self-sufficiency, and self-fulfillment (National Center on Secondary Education and Transition, 2004). For individuals with disabilities, achieving these criteria is difficult as the symptoms of their disability may become an obstacle. By finding an interest-job match for the student, more successful employment outcomes of individuals with disabilities can be achieved (Estrada-Hernández, Wadsworth, Nietupski, Warth, & Winslow, 2008). Luecking and Mooney (2002) suggest that students with disabilities who have early exposure to the workplace can better advocate for their interests, and thus, improve their employment outcomes by developing employment skills and moving toward a career direction. These early job experiences can also offer benefits to the employers. Whether through job shadowing, unpaid work experiences, internships, or paid work, work-based learning offers a safe environment in which to familiarize employers with the assets of youth with disabilities (Luecking & Mooney, 2002). Even though this early exposure has demonstrated value for youths with disabilities, participation in these experiences is low (Benz, Yovanoff, & Doren, 1997; Colley & Jamison, 1998).

Luecking and Mooney (2002) identify competencies that benefit both youth with disabilities and potential employers:

- Identify “return on investment” for companies who participate in work experience programs and hire youth;
- Identify employer needs and market student skills that complement these needs;
- Help manage any changes that might occur as a result of the implementation of workplace supports and accommodations (e.g., post placement follow-up);
- Identify workplace supports, interventions, and accommodations that also contribute to improvement of companies’ overall operational and organizational processes;
- Interact comfortably and productively with employers and speak their language; and
- Make employer participation convenient through well-identified and easy contact and follow-up procedures.

Although, post-school expectations and goals related to employment guide the activities reflected in the student’s IEP goals (Test, Aspel, & Everson, 2006), expectations and outcomes continue to be well below those compared to typical peers. Unemployment rates for individuals with disabilities have lingered around 60-70% (Mank, 2007). More specifically, the National Longitudinal Transition Study (NLTS)-2 found that only 24.8% of young adults with intellectual disabilities, 31.5% of young adults with autism, and 32.4% of young adults with multiple disabilities were employed 2 years after leaving high school (Carter et al., 2005; Wagner, Newman, Cameto, Garza, & Levine, 2005).

Research is contradictory concerning job satisfaction of individuals with disabilities. When college graduates with learning disabilities were examined, 94% were said to be satisfied with their jobs (Greenbaum et al., 1996). In opposition, Witte (2001) recounted that a sample of

college graduates diagnosed with a learning disability responded with some level of dissatisfaction on questions related to job satisfaction. Cultural discrepancies also arise when examining the employment outcomes of youth with disabilities. Blackorby and Wagner (1996) found that African-American and Hispanic students with disabilities earned less in wages and had even more difficulty finding employment when compared to Caucasian students with disabilities. When studying individuals in the low-incidence population of disabilities, the employment rate dropped to 25% for those diagnosed with severe disabilities and 8% for individuals with profound disabilities (LaPlante, Kennedy, Kaye, & Wenger, 1996).

Katsiyannis and colleagues (2005) found that the IEP and transition goals related to employment for students with intellectual disability focused more on sheltered and supported employment than for other disability groups. More specifically, supported employment (45.3% vs. 7.4%) and sheltered employment (33.2% vs. 7.6%) have been found to be more prevalent for students with intellectual disability than for students with other disabilities (Grigal, Hart, & Migliore, 2011). It has also been found that involvement of certain external professionals, such as vocational rehabilitation counselors and other agencies was higher for students with intellectual disability than for students with learning disabilities or emotional/behavioral disorders, but overall vocational rehabilitation participation was very low (Katsiyannis et al., 2005). Others have documented that post-school outcomes for students with intellectual disability have shown very little improvement over time (Hart et al., 2006; Test et al., 2006). Employment studies of post-school outcomes for young adults with intellectual disability continue to show high levels of unemployment and underemployment (Braddock, Hemp, & Rizzolo, 2008; Butterworth, Smith, Hall, Migliore, & Winsor, 2009; Migliore & Butterworth, 2008b; Simonsen, 2010; Weathers & Wittenburg, 2009). In a recent study of post-school

employment outcomes for high school graduates with intellectual disability receiving long-term supports, Simonsen (2010) found that only 39.9% of 338 graduates were engaged in paid work 1 year after exiting high school. Of those who worked, only 14.2% were employed in individual positions and paid minimum wage. The remaining individuals were engaged in supported employment in small group enclaves or mobile work crews and received subminimum wages. The lack of positive outcome data for students with intellectual disability leads us to ask: To what extent do adaptive behavior goals related to employment in transition plans reflect appropriate expectations and anticipatory outcomes when considering a student's level of cognitive impairment?

### **The Correlation of Measures of IQ and Adaptive Functioning**

According to *Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition* (2013), intellectual disability is defined as significantly sub-average intellectual functioning that exists simultaneously with limitations in two or more skill areas of adaptive functioning, including communication, self-care, social skills, community functioning, health and safety, and work. Adaptive functioning is defined as “the collection of conceptual, social, and practical skills that are learned and performed by people in their everyday lives,” which encompasses conceptual skills (language, literacy, and number concepts), social skills (interpersonal skills, self-esteem, and ability to follow social rules/laws), and practical skills (activities of daily living, occupational skills, and safety) (Schalock et al., 2010).

As reported by the *Wechsler Intelligence Scale for Children-Fourth Edition* (WISC-IV, 2003) and other intelligence tests, in the normal distribution of IQ scores, approximately 2.2% of children obtain scores at least 2 standard deviations (*SDs*) below the mean of 70 ( $IQ \leq 70$ ), which qualifies for an intellectual disability. However, the DSM-V attests that to determine the severity

of intellectual disability (i.e., mild, moderate, severe, profound), one must look to an individual's adaptive functioning skills. Considering intellectual functioning and adaptive functioning are both criteria to be diagnosed with an intellectual disability, it is imperative to investigate these measures in relation to each other to determine the most efficient and appropriate interventions during the school years, and services and opportunities for post-school ventures, including employment.

Generally speaking, cognitive and adaptive assessment scores are highly correlated (Liss et al., 2001; Vig & Jedrysek, 1995). In fact, Perry and colleagues (2009) suggest that stronger correlations might be expected in children with lower cognitive levels. Consequently, one may infer that at lower levels of functioning, both IQ and adaptive behavior may measure similar skills, such as the ability to understand and master simple tasks (Liss et al., 2001). However, other research has found that low correlations exist between intelligence and adaptive behavior measures in children with an intellectual disability (Platt, Kamphaus, Cole, & Smith, 1991; Carpianti & Morgan, 1996). Age has also been found to be a factor when examining adaptive behavior. It is suggested that adaptive behavior increases at a much slower rate than does a child's age. In other words, the gap between a child's actual adaptive behavior score and the scores expected for his/her age increasingly widen over time (Perry, Flanagan, Geier, & Freeman, 2009). Chadwick and colleagues (2005) found a negative correlation between the Vineland Adaptive Behavior Scales scores and age for individuals diagnosed with an intellectual disability. More specifically, the authors also discovered that for lower functioning children with autism with a comorbid diagnosis of intellectual disability, adaptive skills were higher than cognitive skills. They attributed this to the children maximizing their potential or having received good life skills instruction. More support of controversial evidence of the relation

between adaptive and cognitive functioning was provided by Bölte and Poustka (2002). The researchers found that measures of adaptive functioning and IQ did not differ significantly in individuals with an intellectual disability diagnosis. Based on the disparities found in the research regarding IQ and adaptive behavior functioning, it is worth examining how levels of intellectual functioning impact adaptive functioning in the area of employment.

### **Theoretical Basis of Transition**

It is essential to take into account the complex social and personal conditions in a child's life when examining theories of transition. These conditions include, but are not limited to the nature, degree, and etiology of a person's disability; age, gender, race, ethnicity, and socioeconomic status of the person; and the family structure and network of the person (Mallory, 1995). The fundamental theories in which the transition of people with disabilities are built upon and the legislation and policies founded from those theories have received increased attention over the past 25 years, as our society has come to acknowledge the basic human rights to which people with disabilities are entitled (Mallory, 1995).

#### *Student-Centered Theories*

Student self-efficacy and self-determination are among the characteristics that research has indicated is necessary for students to experience a successful transition and the outcomes associated with that process. Many theories concentrate on the intrinsic values of the student and how those values add to the success of transition. Self-efficacy is defined as how a person views himself/herself, as well as their level of motivation to be competent in organizing and performing certain skills to accomplish a certain level of performance or achievement (Bandura, 1997; Panagos & Dubois, 1999). Madaus, Zhao, and Ruban (2008) suggest that self-efficacy theories can provide a significant framework with which experiences of individuals with disabilities can

be examined. If a person has a higher level of self-efficacy, they will be more likely to persevere through challenging tasks because they view themselves as having the capability to do so.

Bandura (1977) mentions the related topic of outcome expectation, or that a certain action will lead to a desired outcome or goal. The combination of self-efficacy development and outcome expectations allow a person to sustain a level of personal fulfillment and satisfaction even when faced with barriers related to a specific task or job (Bandura, 1977).

Research findings are not consistent with respect to self-efficacy in children with disabilities, but most assert that there often exists a difficulty with those children achieving a realistic level. Tabassum and Grainger (2002) reported that children with learning disabilities have lower scores on measures of academic self-concept, along with self-efficacy. In contrast, a meta-analysis conducted by Klassen (2002) found that many students with learning disabilities overestimate their levels of self-efficacy. When achieving self-efficacy, a person's disability may present obstacles that interfere (Madaus, Zhao, & Ruban, 2008). In a study conducted by Madaus (2006), nearly three quarters of a sample of individuals with learning disabilities reported that the disability interfered with their job performance. When a disability interferes with an individual's job performance, self-efficacy and the ability to complete job responsibilities is decreased. Conversely, if the person develops self-efficacy beliefs and sets realistic outcome expectations, the potential obstacles presented in the workplace can be overcome (Madaus, Zhao, & Ruban, 2008). Setting realistic outcome expectations can be difficult for an individual with disabilities, but those who know the individual well, such as family members and teachers, can help establish those expectations. Other characteristics, such as self-determination, must also be considered when setting those expectations.

Self-efficacy and self-determination can be thought of as occurring hand-in-hand when evaluating the intrinsic characteristics of a person. If a person does not have adequate self-efficacy, their self-determination will, in turn, be influenced. Whereas self-efficacy is described as more of a personal judgment, self-determination definitions include choice, decision making, and goal attainment (Field, 1996; Schloss, Alper, & Jayne, 1994; Wehmeyer & Schwartz, 1997). In general, self-determination is an obtaining of independence in these areas. When considering individuals with disabilities, common themes of self-determination have emerged, including a political and basic human right, a personal characteristic, a set of skills, a communicative or social relationship, and a systems-change factor (Hughes & Agran, 1998). For the purposes of this study, it has been depicted as an integral student aspect that promotes active participation in the transition planning process (Trainor, 2005). In a study of self-determination and student involvement in the process of transition planning, Wehmeyer and colleagues (2007) found that regardless of disability category, aspects of self-determination, such as self-regulation and self-realization, contributed to student transition planning knowledge and skills. However, research indicates that during this process, students are not given consistent opportunities to practice self-determination skills (Williams & O'Leary, 2001). Mithaug and Mithaug (2007) suggest that reorienting instruction from teacher-directed to student-directed will empower students to learn how to become more self-determined.

This may be difficult as many educators have low expectations of self-determination for their students, especially those students with severe disabilities (Lee & Wehmeyer, 2004). Teacher's low expectations of students with severe disabilities could be attributed to a misunderstanding of self-determination meaning complete independence. Instead, self-

determination can relate to whether individuals exert control over their own outcomes, with appropriate supports matched to their individual capacity (Wehmeyer & Garner, 2003).

Including individual characteristics in the transition process, such as self-efficacy and self-determination, can provide a more appropriate vision for the future for the individual. This vision involves not only the student with disability, but also his/her family, as the transition process influences the family and their vision of the future, as well.

### *Family Involvement in Transition*

Although most transition literature involves the individual's experience as he or she maneuvers through the process, more recent research has recognized that families also experience these transitions. The contention that families, as units, have similar but separate experiences from the individual has been proposed by family development theorists (Mallory, 1995). Regarding this theory, when a child with a disability begins and travels through the transition process, so do the parents (Clegg et al., 2001). This claim includes recognition of family stressors, family dynamic, and family structure. In terms of transition, these stressors are based from the realization of an overwhelmingly limited future for not only their child, but also the family itself (Todd & Shearn, 1996). Hanley-Maxwell and colleagues (1995) attest that parents first appreciate the notion of transition to adulthood after learning that the child has a disability. These authors termed the experience of transitioning their child to adulthood as "the second shock."

The transition process is a time when stressors increase as families of children with disabilities must seek contact with certain institutions such as health care, educational and/or work settings, and community networks. This process is accelerated for the families who have a child with a disability because they must seek this contact earlier than families who do not have a

child with a disability. This premature planning may cause a decrease in familial social networks as families commit to the transition planning process (Mallory, 1995). The breakdown of social networks can be seen both within the family and outside of the family network. For example, a child's disability can cause added stress between parents when planning their child's future. Furthermore, siblings may be called upon to perform household duties and personal care of the family during this process because of the exceptional demands of the child with special needs. These stressors also extend to outside the family in that participation in community activities may decrease and social networks may become more distant as the concentration resides upon transition planning for the child or adolescent. To alleviate or lessen these stressors for families, transition teams must not only address the needs of the student with a disability, but also those of the family. Furthermore, a gradual as opposed to a hasty transition pace allows parents to better adjust, while forming strong bonds with school and community personnel (Hanely-Maxwell, Whitney-Thomas, & Pogoloff, 1995). By evaluating the family's role in the transition process and all contexts of the student, a more well-rounded approach to transition can occur.

### *Bronfenbrenner's Ecological Model*

Salmon and Kinnealey (2007) suggest moving beyond a simplistic, one-dimensional microsystem theoretical approach of transition to one that reflects on all of the multiple dimensions. Bronfenbrenner's Ecological Model (1977) is useful in examining the importance of aspects of the environment on transition (McDevitt & Ormrod, 2002; Meece, 2002).

Bronfenbrenner includes family systems in his theory of ecological aspects of a person, as well as the interface between home and school and additional systems and how the interactions influence a child's development.

1. the microsystem, or primary setting in which the child spends most of his/her time;

2. the mesosystem, or the connection between two or more microsystems;
  3. the exosystem, or those settings not immediately experienced by the child but that influence the child's microsystems; and
  4. the macrosystem, the wider society and culture that contains the other systems
- (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1989).

Gil-Kashiwabara and colleagues (2007) claim that the type and characteristics of the relationships of each system and their interactions will affect the transition process for youth with disabilities. Agreement among the various microsystems can lead to positive student outcomes (Milsom, 2007). For example, students whose parents and teachers participate in regular communication and who are in agreement about expectations for those students are more likely to succeed in school than students whose parents and teachers do not engage in frequent communication (Milsom, 2007). In conjunction with this theory concerning the transition of individuals with disabilities, Diamond and colleagues (1988) indicated that "the transition process can be seen as one of expanding the child's immediate environments, which in turn results in a greater number of environments which must relate to each other within the mesosystem" (pp. 245-246). To determine the relationship between the various microsystems, transition teams must consider the skills and knowledge required to successfully navigate within and through each of these systems (Milsom, 2007).

Salmon and Kinnealey (2007) also support Bronfenbrenner's four contextual levels as multiple layers influencing and affecting an individual's transition experience in their study of the interaction of these levels on children with disabilities. The authors affirm that as a society, we must acknowledge that a person's disability exists within and interacts with all levels of our society. This interaction can either be positive in creating more access to supports, or negative in

creating disagreement that would derail the transition process or result in the transition team losing focus of planning for goals and prioritizing needs to optimally prepare the child for transition. The interaction and differences that exist between the environments should be considered and school staff should work with personnel in both the current and future environments to conduct a needs assessment and then design a relevant intervention plan that considers a variety of influences (Monda-Amaya, Dieker, & Reed, 1998). These aspects of the systems include social, cultural, and historical influences (Gil-Kashiwabara, 2007). By taking into account these influences, along with a student's development, transition teams are provided with a contextual map to better recognize and appreciate the varying and complex barriers encountered by youth with disabilities during the transition process (Gil-Kashiwabara, 2007).

#### *Group Agreement Theories*

Transition planning involves the collaboration and cooperation of a group that includes the student, the student's family, the student's teacher(s), and other school personnel (e.g., therapists, school psychologists, etc.). Theories of group membership, group dynamics, and group workings have been investigated in the field of social psychology. Many social psychologists have defined the term "group" as people who perceive themselves as being bonded or joined together for a particular purpose (Brown, 2000). Baron, Branscombe, and Byrne (2008) assert that the extent to which groups perceive themselves as whole depends on a variety of factors, including: sharing of resources, reciprocating of ideas among members, and recognition of all group members. The authors also affirm that a successful group strongly concurs with the goals the group is seeking and feels that the group can satisfy those goals. This is referred to as group cohesiveness (Ellemers, de Gilder, & Haslam, 2004). Groups that attain cohesiveness see themselves as homogeneous, supportive of in-group members, oriented toward

achieving group goals rather than individual goals, and in agreeance of group goals. Social research affirms that the majority of the time the level of agreement among group members is minimal due to the countless issues on which the members are divided (List, 2001). For transition teams, this decreased level of agreement is no different. The purpose of transition teams, in general, is to smoothly and efficiently move the student from the school environment and its supports to his/her post-secondary education endeavors. However, when there is disagreement in how to efficiently move students through transition and beyond, goals are not followed through and often breakdown among team members occurs during the process.

### **Perceptions of the Transition Process and Outcomes of Youth with Disabilities**

#### *Parent Perceptions*

Parents of children with disabilities compared to parents of children without disabilities have reported to expect transition to be more challenging for their child (Whitney-Thomas & Hanley-Maxwell, 1996). Clegg, and colleagues (2001) determined that the core perception of transition for parents was being a “reluctant referee.” This position involves “feeling compelled to make important decisions without sufficient information, knowledge, or the urging for independence that comes from non-disabled young people” (Clegg et al., 2001, p. 155). The position of “reluctant referee” was found to be influenced by past parenting experiences, including diagnosis of the child and level of involvement with professionals. Parents value the support services provided by students’ teachers (Powers, Greenen, & Powers, 2009), specifically those that promote independence (Hanley-Maxwell, Whitney-Thomas, & Pogoloff, 1995); however, taking on the “reluctant referee” position makes it difficult for parents to be a strong advocate for their child and to determine the most appropriate interventions and services for him/her.

A considerable amount of research has been done to examine whether parents and students share the same beliefs and expectations regarding transition. Powers and colleagues (2009) determined that parents and students were in general agreement concerning the three most vital goals to achieve in the future: finishing high school, having health insurance, and having a good doctor. The authors also found that there was consensus about what skills are important for youth to learn and reach competence during the transition into adulthood: taking care of oneself, protecting one's safety, and speaking up for oneself. Furthermore, self-determination was revealed to be an important characteristic.

The employment aspect of the transition process and the subsequent future employment options generally cause anxiety and trepidation in parents of students with disabilities. When parents' perceptions of transition planning were studied, 43% of them were reported to be concerned with employment opportunities for their child (Goupil et al., 2002). This concern is warranted in that Goupil and colleagues (2002) found that more than two-thirds of the parents they sampled stated that they had no or only partial knowledge of employment options, but more knowledge of community and leisure resources and supports. Although parents express a desire to be involved this process, Goupil and colleagues (2002) reported that only 5 of the 21 participating parents in their study of transition felt they played an 'important role' in their child's transition process. Thus, limited knowledge and feelings of apprehension and fear often result in parents taking a backseat in the transition planning process.

#### *School Staff Perceptions*

Challenges with the transition process are not only encountered by students with disabilities and their parents, but school staff, as well. Along with parents, teachers also possess a poor level of knowledge of services within the public and employment options (Goupil et al.,

2002). However, school staff's level of knowledge, preparedness, and implementation varies depending on the students' diagnosis (Benitez et al., 2008). Considering that teachers are the central developers of transition goals, they should encompass specific transition competencies and knowledge. Discrepancies have been noted in past research regarding teachers' knowledge of transition and transition-related factors. Although teachers report a general understanding of transition problems, issues, and legal mandates, they report a lack of knowledge of specific aspects of the transition process and feel unprepared or only somewhat prepared to plan for and deliver transition services (Benitez et al., 2008; Knott & Asselin, 1999; Wolfe, Boone, & Blanchett, 1998; Blanchett, 2001). Benitez and colleagues (2008) found that teachers' level of satisfaction ranges from 'unsatisfied' to 'somewhat satisfied' with past transition training, which was attributed to the amount of background experience of the teacher. It is likely that only those teachers who perceive themselves as having a significant knowledge base are more likely to implement transition-related instruction and activities from the IEP (Knott & Asselin, 1999).

In addition to inadequate competencies in the general transition process and implementation of transition objectives, teachers report low levels of implementation in the areas of transition assessment, interagency coordination, community-based and independent living curriculum areas, and employment and vocational programs (Knott & Asselin, 1999). Teachers also feel unsatisfied with the training related to collaboration with other groups including: coordinating with outside agencies, providing information to families about agencies, and participating in community-level planning (Benitez, Morningstar, & Frey, 2008).

When comparing parent versus school staff perceptions concerning transition, both parties are, in general, satisfied with the transition planning process (Goupil, Tassé, Garcin, & Doré, 2002). Other factors that appear to have agreement between parents and teachers include

more student-centered meetings and plans (Goupil, Tassé, Garcin, & Doré, 2002). However, strained communication and differing views of the transition process as a whole are identified as barriers with the transition process (Clegg, Sheard, Cahill, & Osbeck, 2001). More specifically, Clegg and colleagues (2001) found that staff tend to be more future-oriented and moving on from past barriers and supports, while parents perceive transition as a continuing process of the past. Although past research has examined parent and teacher perceptions of the transition process, including knowledge and competency of the matter, little has been investigated on how parents and teachers perceive students' skills and capabilities that are required for transition to employment.

### **Summary and Purpose of the Proposed Study**

Since the passing of related federal mandates, transition has been a focus of increased research in the schools and post-school contexts (Ofoegbu & Azarmsa, 2010; Morningstar et al., 2010). Students with disabilities share the same future expectations of students without disabilities, and these expectations are often shared by their parents and teachers (Kueneman & Freeze, 1997). However, the expectations of parents may not match those of teachers, which can result in disrupted transition planning. When the reality of these expectations is examined more closely and student adaptive functioning and intelligence is considered, differences between the parties come to the surface. These differences between transition team members can cause contention that may result in a lack of student progress, unmet student needs, and poor student outcomes. Documented case law details this contention between schools and families when it comes to appropriate transition planning. For example, *Yankton School District v. Schramm* (1996) found that a child with cerebral palsy is entitled to receive specific transition services under IDEA, which were initially denied by her school district.

Although past research has revealed trends in parent and teacher perceptions of student functioning and general transition planning, little has been done to examine how these perceptions translate to post-secondary education employment. Furthermore, group comparison studies have rarely investigated how parent and teacher perceptions of student functioning differs based on the severity of a student's cognitive impairment. This highlights the necessity to create collaborative relationships between families and school staff. If one of the two is underrepresented, unavailable, or unsupportive, the transition process will fall by the wayside. Furthermore, if discrepancies and a lack of consensus exist between the parties concerning the student's functioning, transition plans will be unrealistic and unsuitable for the student. Therefore, by examining agreement between parents and teachers, a better understanding of the student and his/her transition needs can be established and more positive post-school outcomes can occur. For the purposes of this study, parent and teacher perceptions of student's adaptive functioning in the area of employment readiness was examined. Furthermore, IQ was controlled in order to evaluate the effect of severity of an intellectual disability diagnosis and its impression on parent and teacher perceptions of adaptive functioning related to employment.

## Chapter III: Methods

The current study examined parents' and teachers' perceptions of students with intellectual disability and their adaptive functioning as it relates to the employment aspect of transition. Furthermore, ratings by parents and teachers on the questionnaire were evaluated against the students' IQ scores to examine the relationship of agreement between parents and teachers and severity of intellectual disability. The study was completed after approval from Duquesne University's Institutional Review Board (IRB). The following chapter identifies the participants, measures, data collection procedures, and data analyses of the study.

### **Participants**

#### *Power Analysis*

To determine the number of participants necessary to achieve adequate power when conducting the analyses, an a priori power analysis was conducted using *G\*Power 3.1.2*, a power analysis program (Faul, Erdfelder, Lang, & Buchner, 2007). Power represents the probability that existing effects have a chance of producing statistical significance through data analysis (Tabachnick & Fidell, 2007). According to Stevens (2002), power greater than or equal to .80 is considered to be adequate in order to detect a medium effect size of .50. Results of the power analysis suggest that to achieve sufficient power and medium effect size, a sample size of at least 40 was required. Since the purpose of the study is to examine parent and teacher perceptions of skills essential for transition to employment, the aim was to obtain completed questionnaires from 40 parent/teacher dyads of transition-aged students. However, due to a low response rate (57%), a total sample size of 35 parent/teacher dyad questionnaires was deemed adequate.

### *Participant Demographics*

Each parent and teacher of a dyad completed a questionnaire of adaptive functioning related to employment of a student diagnosed with an intellectual disability and who receive special education services under the classification of intellectual disability or multiple disabilities. Given the purpose of the study, inclusion criteria required a diagnosis of intellectual disability by DSM-V standards and student age within the range of transition planning (14 to 21 years old). Exclusion criteria included the student having a diagnosis of autism spectrum disorder. No exclusion criteria were based on race, ethnicity, or gender. Students ranged in age from 14 to 20 years old with a mean age of 16.37 years and consisted of 51.4% males and 48.6% females. IQ scores were also obtained for students by information provided by teachers from previous school evaluations. Student IQ scores ranged from a standard score of 30 to a standard score of 70 with a mean IQ of 50.63. Scores were divided into groups of severity of intellectual disability consisting of mild, moderate, and severe-to-profound, which helped to better understand the population that was being assessed. Although the targeted students of the sample size had limitations, the population of students was generally representative of the intellectual disability population.

### **Data Collection Procedures**

Participants were recruited by contacting transition planners, special education coordinators, and other school staff members of public high schools in the regional area of Central Ohio. Through email and/or phone calls, the rationale and purpose of the study was explained. Those districts and individuals who expressed interest in participation were then provided with questionnaires (Becker Work Adjustment Profile: Second Edition) to be filled out by a parent and teacher of students who met criteria for the study. Informed consent was

provided with the questionnaire to be completed by parents and teachers of students, which detailed the purpose of the study, statement of voluntary basis, and description of foreseeable risks and/or benefits. Participation in this study involved minimal risk and likely no more risk than is experienced in every day life given the educational context of the teachers and parents. Moreover, teachers and parents completing behavior and skills questionnaires/inventories, and then supplying the questionnaires/inventories to other interested parties is an exceptionally common educational practice in schools. Considering the nature of the study, teachers were only asked to participate if a parent of the student completed the questionnaire and parental informed consent was obtained. Informed consent was required to be returned with the completed questionnaire to be eligible for participation in the study. Parents and teachers who completed a questionnaire were provided with a small compensation (i.e., gift card) of their time and effort. Information on confidentiality and de-identification was also discussed in that the anonymity of the participants was maintained by using codes for the questionnaires of the corresponding students rather than names. Detailed directions on how to complete the BWAP: 2 and return it to the principal investigator with informed consent was provided. The rate of return of questionnaires was monitored and found to be 57%. Follow-up phone calls were made in an attempt to increase the return rate. At the end of the data collection phase, the data was exported into an SPSS file.

## **Measures**

### *Instrument*

The Becker Work Adjustment Profile: 2 (BWAP: 2) is the product of a comprehensive review of 15 years since first introduced to assess individuals with disabilities. It is a questionnaire designed to assess work habits, attitudes, and skills important for job readiness,

work adjustment, and job employability of people with special needs. It can be suitable for individuals who are physically, intellectually or learning disabled, or have a mental health diagnosis (Becker, 2005). Individuals with specific disabilities, such as cerebral palsy, autism, epilepsy, and head injury can also be assessed with the BWAP: 2 scales to determine their level of vocational competency. The measure is designed to evaluate vocational competency of individuals, ages 12 to adult, which is defined by a person's typical performance, not ability (Becker, 2005). The items of the BWAP: 2 have undergone various item analyses and normed with samples of individuals with a variety of disabilities to attain the current level of item content. For the purposes of this study, the norms for individuals with intellectual disability were utilized.

The BWAP: 2 measures work behavior and related activities on a 5-point Likert scale. The scale is descriptive in that each of five points represents a recognizable or definable behavioral condition. The rating scale ranges horizontally and developmentally from "0" (least skill) to "4" (most skill). It is comprised of a series of vocational coping skills that when combined, allow an individual with disabilities to be assessed for his or her level of work demand. The questionnaire is designed to be completed by individuals who are familiar with the person's adjustment to the daily demands of the work environment. The BWAP: 2 contains 63 items that have been researched and factor analyzed into four domains (factors) and a composite or total score called Broad Work Adjustment (BWA). The domain scales were normed on 4,019 persons that included 1,621 who were classified at varying levels of intellectual disabilities (Becker, 2005). Responses are summed for each domain into raw scores and domain raw scores are then summed for a total raw score for a Broad Work Adjustment (BWA) total composite score. However, the BWA was not utilized as part of this study. Raw scores for each domain

are then converted to percentiles, T-scores (mean of 50 and standard deviation of 10), and levels of work placement (classified as: Day Care, Work Activity, Sheltered Work, Transitional Work, and Community-competitive Work) and work support needs (described as: Extensive, High, Moderate, Low, and Limited). However, this information was not utilized as part of the study as assessing work placement was not an objective. Descriptions of the domains and example questionnaire items are provided below:

**(1) Work Habits/Attitudes (HA)**

Description: Assesses attendance and punctuality, personal hygiene, motivation, and posture.

Example questionnaire item: *Shows initiative and interest when performing job assignments.*

**(2) Interpersonal Relations (IR)**

Description: Assesses an individual's social interaction with others, ability to emotionally adapt to change, and willingness to cooperate with others at work.

Example questionnaire item: *Offers help or assistance to co-workers without being told.*

**(3) Cognitive Skills (CO)**

Description: Assesses abilities of reasoning, judgment, thinking, and recognizing, as well as functional reading and writing, understanding of time concepts, and management of affairs in daily living.

Example questionnaire item: *Remembers orally given information or work instructions.*

**(4) Work Performance Skills (WP)**

Description: Assesses fine and gross motor functioning, communication, job responsibility, and work efficiency.

Example questionnaire item: *Seeks necessary help or assistance from supervisors in the work area.*

### *Reliability and Validity of the BWAP: 2*

The BWAP: 2 has extensive reliability and validity evidence to determine vocational competence of people in residential developmental centers, sheltered workshops, work activity centers, habilitation centers, and work-study programs in schools. Internal consistency, or the degree to which each item on a test is measuring the same trait or behavior as the other items, was computed using Cronbach's alpha for each domain and total score of five groups in the standardization sample (intellectually disabled, learning disabled, economically disadvantaged, emotionally disturbed, and physically disabled) (Becker, 2005). Coefficients on the domain scales ranged from .87 to .91 with the majority at or greater than .90 (Becker, 2005). In other words, the BWAP: 2 demonstrates adequate internal consistency reliability given its' significance across the four domains and total composite score for diverse groups of subjects. The test-retest reliability coefficient is the correlation between scores obtained by the same examinee on two administrations of the same measurement (Anastasi & Urbina, 2007). Using the Pearson product-moment, the total composite scores (BWA) ranged from .89 to .93 with the majority of domain scales at or greater than .90 (Becker, 2005). Therefore, it can be assumed that the items of the BWAP: 2 yield stable and consistent results over time. When examining inter-rater reliability using the Pearson product-moment by domain and total scores, correlations were found to range from a low of .82 (Work Habits/Attitudes) to a high of .89 (Cognitive Skills) with the composite BWA coefficient measuring at .87 (Becker, 2005). Examination of the reliability coefficients from studies of internal consistency, test-retest, and inter-rater agreement suggest that the BWAP: 2 is a reliable instrument.

Content validity and criterion-related validity were provided by Becker (2005) to assess the extent to which the BWAP: 2 measures what it is intended to measure. In terms of content validity by item analysis, domain and total score median discriminatory power resulted in a range from .61 to .79. The magnitudes of the indices are at levels that provide evidence for item validity of the specific domains. In addition, the internal consistency reliability data further supports the content validity of the BWAP: 2 domains. To determine criterion-related validity, BWAP: 2 score were intercorrelated with the *AAMR Adaptive Behavior Scale* (Nihira et al., 1993) which measures vocational and adaptive functioning. The intercorrelations between the BWAP: 2 and *AAMR-ABS Part I* were found to be moderate to high with both clinical and practical significance. When the BWAP: 2 scores were intercorrelated with Part II of the *AAMR-ABS*, a measure of maladaptive behavior, negative correlations were established. It is hypothesized that a positive relationship, or correlation, would not be expected between vocational competency and maladaptive behavior. Thus, these outcomes provide support of the criterion-validity of the BWAP: 2.

#### *BWAP: 2 and IQ*

Because the present study controlled for IQ, it is necessary to discuss how intelligence factors into the domains of the BWAP: 2. The most common intelligence tests include the *Wechsler Intelligence Scale for Children-Fourth Edition* (WISC-IV; Wechsler, 2003), *Wechsler Intelligence Scale for Children-Fifth Edition* (WISC-V; Wechsler, 2014), *Wechsler Adult Intelligence Scale-Third Edition* (WAIS-IV; Wechsler, 2008), the *Stanford-Binet Intelligence Scales-Fifth Edition* (SB-V; Roid, 2003), and the *Differential Ability Scales-Second Edition* (DAS-II; Elliot, 2007). These intelligence tests all use standard scores (mean=100, standard deviation=15). Bolting (2001) found that the Cognitive Skills subscale of the BWAP: 2 is highly

correlated with measured intelligence. Although the correlation of IQ with the other subscales is somewhat lower, it is apparent that the BWAP: 2 is, in part, measuring intelligence (Bolton, 2001). Becker (2005) also examined how well the BWAP: 2 accurately discriminated among the different levels of intellectual disability. It was found that each progressive developmental level exhibits a gain in mean value from profound through mild intellectual disability, which provides evidence of the construct validity of the BWAP: 2.

### **Research Design**

The research design of this study included one independent variable (the rater) with two levels and four dependent variables. The relationship of the respondent to the student with the intellectual disability was the independent variable for this study. The two levels of the independent variable are parent and teacher. The dependent variables consisted of the four domains of the BWAP: 2 questionnaire: Work Habits/Attitudes, Interpersonal Relations, Cognitive Skills, and Work Performance Skills. Finally, full scale IQ was used as a covariate in analyses.

### *Data Analysis*

Each of the research questions within this study were analyzed using specific data analysis. Research question one examined the relationship between parent ratings on the four domains of the BWAP: 2, teacher ratings on the four domains of the BWAP: 2, and student IQ scores. It was hypothesized that these variables would be moderately correlated. Pearson correlations were run as a preliminary analysis to determine relationships between variables of the study.

Research question two examined whether significant group differences exist between parent and teacher ratings of student abilities on the four domains of the BWAP: 2. It was

hypothesized that significant differences would exist with parents rating students' abilities as more developed as compared to teachers. A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the two groups (parents and teachers) on the four dependent variables (Work Habits/Attitudes, Interpersonal Relations, Cognitive Skills, and Work Performance Skills) when considered in combination.

The third research question investigated the existence of group differences between parent and teacher ratings of student abilities on the BWAP: 2, after controlling for the effects of IQ. It was hypothesized that group differences could occur even after controlling for the effects of IQ. A multivariate analysis of covariance (MANCOVA) was conducted to determine significance of group differences, while controlling for IQ.

## Chapter IV: Results

This chapter provides the data analyses conducted in order to evaluate and answer research questions related to parent and teacher perceptions of employment readiness in students with intellectual disabilities while also taking IQ into account. More specifically, descriptive and preliminary analyses are outlined followed by results of statistical analyses for each research question. Participants in the current study consisted of 35 parent and teacher dyads. Demographics for the students of whom the questionnaires were completed on are summarized in the tables and narratives below.

### Demographic Characteristics of the Target Students

Table 1 describes the gender makeup of the students on whom the questionnaires were completed. Gender was well distributed between males and females with 18 males (51.4%) and 17 females (48.6%) being the target of ratings for a total of 35 target students within the study.

**Table 1.** Frequency and Percentage of Students by Gender

Gender	Frequency	Percentage (%)
Male	18	51.4%
Female	17	48.6%
Total	35	100%

The target students ranged in age from 14 to 20 years old with a mean age of 16.37 years (standard deviation of 1.63 years), as described in Table 2 below.

**Table 2.** Age Characteristics of Students for Whom Questionnaires Were Completed

Mean	16.37 years
Standard Deviation	1.63 years
Range	6 years
Minimum	14 years
Maximum	20 years

Table 3 describes the special education classifications of the 35 students. Twenty-one (60%) of the students had a special education classification of Intellectual Disability and fourteen (40%) had a classification of Multiple Disabilities. Students with a Multiple Disabilities

classification also met criteria for a diagnosis of Intellectual Disability according to their IQ score.

**Table 3.** Frequency and Percentage of Students by Special Education Classification

Special Education Classification	Frequency	Percentage (%)
Intellectual Disability	21	60%
Multiple Disabilities	14	40%

IQ scores were also obtained for students by information provided by teachers from school records and previous school evaluations. Unfortunately, there is inconsistency between cognitive assessments used in schools. More specifically, cognitive assessments used for students of the present study included the *Stanford-Binet Intelligence Scales-Fifth Edition* (SB-V; Roid, 2003), the *Wechsler Intelligence Scale for Children-Fourth Edition* (WISC-IV; Wechsler, 2003), the *Wechsler Intelligence Scale for Children-Fifth Edition* (WISC-V; Wechsler, 2014), the *Wechsler Adult Intelligence Scale-Fourth Edition* (WAIS-IV; Wechsler, 2008), the *Differential Abilities Scale-Second Edition* (DAS-II; Elliot, 2007), and the *Leiter-Revised Edition* (Leiter-R; Roid & Miller, 1997). As evidenced in Table 4, student IQ scores ranged from a standard score of 30 to a standard score of 70 with a mean IQ of 50.63. Students were arranged into groups according to severity of intellectual disability consisting of mild, moderate, and severe-to-profound according to criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V; American Psychiatric Association, 2013). When examining the specific categories, the mild intellectual disability group in the present study consisted of those with IQ scores that range from 56 to 70. IQ scores of the moderate intellectual disability consisted of a range from 42 to 52, and the severe-to-profound group included IQ scores that range from 30 to 40. Of the 35 students that were rated, 14 students were considered to have a mild intellectual disability, as well as 14 with a moderate intellectual disability. Seven

were classified as severe-to-profound intellectual disability based on their IQ score. These categories help to better describe the population that was being assessed and how severity of intellectual disability relates to adaptive functioning regarding employment.

**Table 4.** Severity of Intellectual Disability

	<i>N</i>	Mean	Standard Deviation	Minimum	Maximum	Range
IQ Score	35	50.63	11.958	30	70	40
Mild	14	63.36	4.413	56	70	14
Moderate	14	45.86	3.416	42	52	10
Profound to Severe	7	34.71	4.030	30	40	10

Table 5 presents the mean scores and standard deviations for the ratings of the two groups (parents and teachers) on each of the four domains of the BWAP: 2 (Work Habits/Attitudes, Interpersonal Relations, Cognitive Skills, and Work Performance Skills). T-Scores are used as the standardized scores for the measure with a mean of 50 and standard deviation of 10. Overall, parents and teachers rated students with intellectual disabilities in all four domains on the present study as comparable to the normative data of individuals with intellectual disabilities sampled as part of the development of the BWAP: 2. When examining parent ratings, mean scores ranged from 45.03 (Work Performance Skills) to 49.64 (Work Habits/Attitudes). Teacher mean scores ranged from 47.34 (Work Performance Skills) to 49.29 (Interpersonal Relations).

**Table 5.** Parent and Teacher Ratings By Mean and Standard Deviation

	Mean	Standard Deviation
<i>Parent Ratings</i>		
Work Habits/Attitudes (HA)	49.64	8.687
Interpersonal Relations (IR)	45.91	7.512
Cognitive Skills (CO)	48.29	6.888
Work Performance Skills (WP)	45.03	8.863
<i>Teacher Ratings</i>		
Work Habits/Attitudes (HA)	48.83	11.597
Interpersonal Relations (IR)	49.29	9.812
Cognitive Skills (CO)	49.17	8.031
Work Performance Skills (WP)	47.34	10.181

### Research Question 1 and Analyses

The first research question of the study examined the relationship among parent and teacher ratings on the four domains BWAP: 2, which consisted of Work Habits/Attitudes (HA), Interpersonal Relations (IR), Cognitive Skills (CO), and Work Performance Skills (WP), as well as students' IQ scores. Pearson correlations were calculated for each pair of variables and are organized into a correlation matrix presented in Table 7.

**Table 6. Pearson Correlations of Variables**

	IQ score	Parent HA	Parent IR	Parent CO	Parent WP	Teacher HA	Teacher IR	Teacher CO	Teacher WP
IQ score	1								
Parent HA	.103	1							
Parent IR	.145	.661**	1						
Parent CO	.662**	.556**	.560**	1					
Parent WP	.481**	.766**	.657**	.806**	1				
Teacher HA	.226	.537**	.386*	.526**	.616**	1			
Teacher IR	.335**	.530**	.546**	.528**	.511**	.750**	1		
Teacher CO	.697**	.460**	.406*	.785**	.660**	.692**	.770**	1	
Teacher WP	.482**	.479**	.337*	.626**	.638**	.789**	.789**	.885**	1

\*  $p < .05$ ; \*\*  $p < .01$ .

The results of the correlation analysis illustrated above show 30 of the 36 correlations were statistically significant at the  $p < .01$  level and 3 of 36 correlations were significant at the  $p < .05$  level. This suggests that parent ratings on the four domains vary together with teacher ratings on the same domains. More specifically, correlations between variables ranged from .34 (parent Interpersonal Relations and teacher Work Performance Skills) to .89 (teacher Cognitive

Skills and teacher Work Performance Skills). When specifically examining correlations between parent and teacher ratings on each domain, correlations ranged from .54 to .79, which suggest moderate to strong relationships between ratings of the two groups. Regarding the Work Habits/Attitudes domain, a correlation of .54 was indicated between parents and teachers. Parent and teacher ratings on the Interpersonal Relations domain yielded a correlation of .55, while the Work Performance Skills domain yielded a correlation of .64. Finally, the Cognitive Skills domain produced the strongest relationship between parent and teacher ratings with a correlation of .79. The positive correlations further indicate that as ratings by parents of a student's abilities on the four domains increase or decrease, so do those of the teacher's. This indicates that parents and teachers generally agree in terms of a student's skills on the specific constructs. Correlations were insignificant between IQ and parent and teacher ratings of Work Habits/Attitudes, as well as IQ and parent ratings of Interpersonal Relations.

### **Preliminary Analyses**

Preliminary analyses were completed to investigate assumptions prior to conducting the MANOVA. In general, the data for both groups (parents and teachers) was found to be normally distributed, except for the Interpersonal Relations dependent variable of the parent group. The Kolmogorov-Smirnov and Shapiro-Wilks tests specified significance at the  $p > .05$  level, indicating normality for all other variables.

The sphericity assumption was also examined as a preliminary analysis. Mauchly's test of sphericity indicates that the assumption was violated at the  $p < .05$  level. Since the p-value was less than .05, sphericity could not be assumed and one can infer that significant differences occurred. Due to the significant result of Mauchly's test, modifications were made using the

Greenhouse-Geisser correction to alter the degrees of freedom and establish an F-ratio where Type I error is reduced.

### Research Question 2 and Analyses

The second research question inspected group differences between parents and teachers and their ratings on the four domains of the BWAP: 2. More specifically, a one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the two groups (parents and teachers) on the four dependent variables (Work Habits/Attitudes, Interpersonal Relations, Cognitive Skills, and Work Performance Skills) considered together. Table 7 indicates that insignificant differences were found between parent and teacher ratings on the four domains, Wilks's  $\lambda=.85$ ,  $F(3, 32)=1.86$ . The Greenhouse-Geisser correction is reported in Table 8 to account for within-subjects effects and sphericity violation. Follow-up analyses, including ANOVAs for each dependent variable were not conducted, as the MANOVA yielded insignificant results and supported the null hypothesis. Therefore, additional analyses were not appropriate to determine differences among the four dependent variables, or domains of the BWAP: 2.

**Table 7.** Multivariate Tests

	Wilks' Lambda Value	F	Hypothesis df	Error df	Sig.
Tests	.646	5.84	3	32	.003
Parent/Teacher	.908	3.43	1	34	.073
Tests*Parent/Teacher	.851	1.86	3	32	.156

**Table 8.** Tests of Within Subjects-Effects

		Type III Sum of Squares	df	Mean Square	F	Sig.
Tests	Sphericity Assumed	234.886	3	78.295	2.479	.065
	Greenhouse-Geisser	234.886	2.491	94.288	2.479	.078
Parent/Teacher	Sphericity Assumed	312.914	1	312.914	3.427	.073
	Greenhouse-Geisser	312.914	1.000	312.914	3.427	.073
Tests*Parent/Teacher	Sphericity Assumed	55.686	3	18.562	1.333	2.68
	Greenhouse-Geisser	55.686	2.317	24.038	1.333	2.71

### Research Question 3 and Analyses

The third research question intended to examine the parent and teacher ratings of the four domains of the BWAP: 2 when controlling for IQ. A multivariate analysis of covariance (MANCOVA) was utilized to test whether a student's IQ has an effect on generating differences on group ratings. Similarly to results of the MANOVA, Table 9 indicates that insignificant differences were found between parent and teacher ratings on the four domains when accounting for the effect of IQ, Wilks's  $\lambda=.93$ ,  $F(3, 31)=.82$ . The Greenhouse-Geiser correction is reported in Table 10 to account for within-subjects effects and sphericity violation. Given that results of the MANCOVA were insignificant, follow-up analyses were not appropriate.

**Table 9.** Multivariate Tests

	Wilks' Lambda Value	F	Hypothesis df	Error df	Sig.
Tests	.591	7.146	3	31	.001
Tests*IQ	.609	6.631	3	31	.001
Parent/Teacher	.983	.587	1	33	.449
Parent/Teacher*IQ	.957	1.490	1	33	.231
Tests*Parent/Teacher	.948	.570	3	31	.639
Tests*Parent/Teacher*IQ	.927	.820	3	31	.493

**Table 10.** Tests of Within-Subjects Effects

		Type III Sum of Squares	df	Mean Square	F	Sig.
Tests	Sphericity	562.039	3	187.346	7.000	.000
	Assumed					
Tests*IQ	Greenhouse- Geisser	562.039	2.518	223.223	7.000	.001
	Sphericity	571.672	3	190.557	7.120	.000
Tests*IQ	Assumed					
	Greenhouse- Geisser	571.672	2.518	227.050	7.120	.001
Parent/Teacher	Sphericity	52.824	1	52.824	.587	.449
	Assumed					
Parent/Teacher	Greenhouse- Geisser	52.824	1.000	52.824	.587	.449
	Sphericity	134.107	1	134.107	1.490	.231
Parent/Teacher*IQ	Assumed					
	Greenhouse- Geisser	134.107	1.000	134.107	1.490	.231
Tests*Parent/Teacher	Sphericity	16.975	3	5.658	.401	.752
	Assumed					
Tests*Parent/Teacher	Greenhouse- Geisser	16.975	2.284	7.431	.401	.698
	Sphericity	24.698	3	8.233	.584	.627
Tests*Parent/Teacher*IQ	Assumed					
	Greenhouse- Geisser	24.698	2.284	10.811	.584	.582

## Chapter V: Discussion

The present study examined agreement between parent and teacher ratings regarding students diagnosed with intellectual disability and their abilities related to employment readiness, and doing so while controlling for the effects of student IQ. Previous research has explored parent and school staff member views concerning the transition process, and their perceptions of the same student's behavior. Unknown prior to this study was how parents and teachers perceive a student with intellectual disabilities and their adaptive skills related to employment. This chapter will present further interpretation of the results and their connection to previous literature and theory, application of the findings, limitations of the study, and considerations for future research.

### **Theoretical Foundations and Existing Research**

Systems theories, including Bronfenbrenner's Ecological Theory (1977), have evaluated the interface between home and school and how interactions between the two influence a child's development and learning. Of importance when studying transition, research has suggested that interventions and programs that focus on children through the mesosystem of home and school should be considered, and can promote positive post-secondary outcomes for students with disabilities (Garbacz et al., 2015). This collaboration is of utmost importance when formulating IEP and transition goals for children with disabilities. Group agreement and cohesiveness theories have suggested that transition team members, including parents and teachers will have more success when consensus of goals is achieved (Ellemers, De Gilder, & Haslam, 2004). While consensus is often driven by shared resources, reciprocity of ideas, and recognition of group members (Baron, Branscombe, & Byrne, 2008), this is not always the case for transition team members of students with disabilities. For transition teams to achieve successful planning

and outcomes for the student, consensus among group members must involve an accurate and comprehensive depiction of the student. This is realized by gathering information from a variety of data sources, including multiple informants (e.g., parents and teachers).

The significance of utilizing multiple informants is clear as behaviors and level of functioning can differ depending on the environmental context, as well as how informants interact with or observe the child and how their presence influences a student's behavior (De Los Reyes, 2011; Hoyt, 2000). This may be most apparent when examining agreement between parents and teachers and their perceptions of students with disabilities in the home and school environments. In fact, previous literature has documented disagreement between the parents and teachers in a variety of areas in children with disabilities (Bailey, Simmeonsson, Buysse, & Smith, 1993). However, more studies regard broad behavior, rather than acquisition and mastery of functional skills.

When specifically examining ratings of parents and teachers on behavior measures, research has documented low to moderate agreement (Cai, Kaiser, & Hancock, 2004). In one meta-analysis, moderate agreement between pairs of raters (i.e., parent-parent, parent-teacher, parent-child, and teacher-child) resulted for emotional/behavioral problems and social skills of children with autism spectrum disorder or intellectual disability (Stratis & Lecavalier, 2015). In addition, the researchers found that agreement of behavior decreased as IQ increased and like raters (e.g., parent-parent) showed considerably higher agreement as compared to unlike raters (e.g., parent-teacher). In part, this could be attributed to like raters observing students in similar environments. Furthermore, it has been proposed that parents and teachers may have difficulty distinguishing noncompliance from behaviors that result from a student's disability (Klaassen, Duijff, Sinnema, Beemer, Swanenburg de Veye, & Vorstman, 2015). Glascoe (1994) surmised

that one explanation is that individuals could perceive noncompliance with a command as an intentional act of student with disabilities, rather than a manifestation of the disability, such as difficulty comprehending the command.

Regarding diagnosis, there tends to be high agreement for more observable conditions, such as moderate to severe developmental delays, autism, and genetic disorders, while it is lower for conditions, such as mild developmental delay and language disorders (Ho, Miller, & Armstrong, 1994). In addition, research has indicated that there tends to be less agreement between parents and professionals in children with a history of developmental delays and intellectual disabilities compared to those with more medically- and/or physically-related disabilities (Bailey, Simeonsson, Buysse, & Smith, 1993).

Inconsistencies also exist when examining agreement and a student's level of cognitive functioning, but research has indicated that it is a source of less agreement between parents and professionals compared to other areas of a disability (Glaun et al., 1998). While some research has determined that discrepancies between parents and teachers widen when a child's intellectual disability is more severe (Shin, Nhan, Crittenden, Valenti, & Hong, 2008), others have indicated that agreement decreases as cognitive functioning increases (Geiger, Smith, & Creaghead, 2002). More specifically, research has found that parents tend to overestimate a student's level of functioning and rate skills higher than teachers, particularly in the areas of intellectual functioning and social behaviors (Sheehan, 1988; Shin et al., 2008).

### **Summary of Results**

The present study attempted to expand the literature base to examine parent and teacher agreement regarding adaptive skills for employment, specifically in students with intellectual disabilities. Rooted in the theoretical foundations already discussed, it is inferred that agreement

between the two parties will produce more positive transition planning experiences and outcomes for this population, such as more success with implementation of recommendations and interventions (Human & Teglassi, 1993; Rogers et al., 1992; Simeonsson, Edmondson, Smith, Carnahan, & Bucy, 1995).

The first research question examined the relationship between parent ratings on the four domains of BWAP: 2 (Work Habits/Attitudes, Interpersonal Relations, Cognitive Skills, and Work Performance Skills), teacher ratings on the four domains of the BWAP: 2, and IQ score. Correlations were computed to determine the strength of these relationships. Results indicated significant correlations between parent and teacher ratings of the same four domains, which imply strong agreement between the two regarding a student's skills in the areas of work habits and attitudes, interpersonal relationships, cognitive abilities, and work performance abilities. However, IQ and parent and teacher ratings on the Work Habits/Attitudes domain, as well as IQ and parent ratings on the Interpersonal Relations domain yielded insignificant correlations. This suggests that parent and teacher ratings of student's personal hygiene and motivation to work do not vary by a student's IQ. It is believed that this insignificant result could be due to unclear test directions regarding the level of independence necessary to complete a certain task on the BWAP: 2, particularly in the Work Habits/Attitudes domain. In addition, parent ratings of student's social interaction, emotional stability, and cooperation in the work place do not vary by IQ score. The proposed hypothesis for the first research question was generally supported in that the variables of parent and teacher ratings on the four domains of the BWAP: 2 and a student's IQ score are moderately correlated.

The second research question examined group differences between parent and teacher ratings on the four domains of the BWAP: 2 with the four domains considered together for

analyses. It was hypothesized that parents will score students' abilities higher on the four domains of the BWAP: 2. As demonstrated by Table 5 in the Results section, parents only rated target student's skills as more developed on the Work Habits/Attitudes domain, while teachers rated target students higher on the Interpersonal Relations, Cognitive Skills, and Work Performance Skills domains. However, these differences were not significant indicating that parents and teachers rate students similarly and that there is agreement regarding their perceptions of students with intellectual disabilities and their abilities as related to employment readiness.

The third research question considered if differences between parent and teacher ratings exist on the four domains of the BWAP: 2 after controlling for the effects of student IQ scores. As a result, the multivariate analysis was conducted for a second time while controlling for the ability estimate of IQ score. Results indicated that parents and teachers did not significantly differ on how they rate a student's employment readiness abilities, regardless of IQ.

The results outlined above add to the literature base as little research has been done to specifically examine agreement regarding parent and teacher ratings of student employment-related skills. While a study conducted by Ho, Miller, and Armstrong (1994) suggested that there is greater consensus between parents and professionals regarding the severity level of an intellectual disability (e.g., mild versus profound), the authors did not investigate specific functional abilities of students as performed in the present study. This suggests that a gap may exist in understanding the level of intellectual disability and how it translates to the functional abilities of the student. As such, previous literature is inconclusive regarding parent and teacher agreement when considering level of cognitive functioning, or IQ score. Stratis & Lecavalier (2015) determined that there is less consistency among raters regarding behavior as student

cognitive level increases. The researchers suggest that this could be attributed to less variability in behaviors between home and school environments in students with lower cognitive functioning. Although it is also worth considering that behavior ratings can cause inconsistencies in informant agreement as they are often influenced by rater biases, expectations, and variations in developmental norms (Hoyt, 2000).

Whereas much of the previous research has explored agreement regarding a student's behavior, the present study examined adaptive functioning related to employment. Geiger and colleagues (2002) found that when adaptive functioning is examined, there seems to be higher levels of agreement between parents and teachers of students with higher IQ scores. This suggests lower levels of consensus when a student's delays are more severe. However, this particular study examined students with autism spectrum disorder, which is a population that can present with more complex behaviors and scattered developmental profiles (Stone & Rosenbaum, 1988). As a result, this can make it more difficult to obtain a realistic profile of the student from multiple informants likely due to an overestimation or underestimation of skills.

Shin and colleagues (2008) found that parents tended to rate their child's functional level as higher than teachers, particularly in the areas of intellectual functioning, social behaviors, and communication skills. Compared to the present study, this would suggest that parents' ratings of students would be higher, particularly on the Cognitive Skills and Interpersonal Relations domains. However, this was not the case and in fact, teachers rated students higher in these areas, though it was not a significant finding. This inconsistency among research could in part be attributed to cultural differences. More specifically, Shin and colleagues (2008) examined parent and teacher agreement of students with intellectual disabilities in Vietnam, which is a

culture that may possess different views regarding disabilities in general and academic standards for students with disabilities.

Sheehan (1988) also documented parental overestimation of child's developmental level when compared to results of diagnostic measures. However, this particular study did not examine teacher perceptions of student's developmental level. In addition, children examined in Sheehan's study were of preschool and kindergarten age, suggesting that more disagreement between parents and professionals may emerge as students age. This explanation was supported by Stratis and Lecavalier (2015) who found that agreement decreased between parents and teachers, specifically regarding behavior and social skills, as age increased.

### **Implications for Practice**

Based on previous research and existing case law, it is clear that disagreements may arise during the transition planning process. One possible source of discord could be disagreement between parents and teachers regarding a student's skill levels, and in turn what appropriate targets of intervention might be. This barrier would certainly cause further disputes when forming IEP and transition goals, as well as appropriate standards for determining if a student has met those goals. This study explored the hypothesis that a root origin of discord in transition planning may be that parents and teachers hold different perceptions of student abilities and resulting needs related to employment. However, it was revealed that parent and teacher ratings of target students' skills are not discrepant from one another, even when controlling for the effects of IQ. Therefore, one must consider other possible explanations for discord that may occur during the transition planning process. One explanation could be that of differing opinions of the transition process as a whole. Existing research has documented conflicting views with teachers maintaining a more future-oriented perception of transition and parents viewing it as a

continuation of the past (Clegg et al., 2001). This suggests that teachers may be moving at a quicker pace than what families are prepared for during the transition process or that teachers are not fully considering student's past learning experiences while planning.

Even when agreement exists regarding student skill levels, lack of communication and negative interactions between transition team members may cause discord during the planning process (Clegg et al., 2001). Parents have reported that teachers frequently do not accept their suggestions or knowledge during IEP meetings and throughout the transition process (Ankeny, et al., 2009; Stroggilos & Xanthacou, 2006). Although parents may not have extensive knowledge of the transition process, they should be considered the experts of their children. Parents have valuable information about their children that can offer more productive and successful transition planning and outcomes. Unfortunately, unsuccessful or limited communication and collaboration may result in parents and teachers working on different goals, which inhibits a student's ability to develop and generalize skills across environments, including home, school, and potential job settings.

In addition to agreeing on student skill levels, agreement regarding transition goals is also important. Existing research has documented the importance of establishing appropriate and realistic transition goals for students with intellectual disabilities to improve post-school outcomes. However, teachers, in particular, often feel that parents have impractical goals for their children (Hogansen et al., 2008). In addition, parents often have difficulty contributing to the development of goals, and therefore, struggle to implement the goals at home (Stroggilos & Xanthacou, 2006). This undoubtedly can negatively impact a student's ability to generalize skills. Parents and teachers may also have different goals in mind for students. For example, parents may be more focused on increasing academic abilities to coordinate with the school

curriculum, while teachers may want to put more energy into working on self-help and community skills. This was supported by Hogansen and colleagues (2008) who found that parents are interested in education, social relationships, independency, and family as much as employment, while teachers tend to focus around job training. Even if parents and teachers generally agree on students' skills, this does not necessarily translate to forming appropriate transition goals.

Furthermore, it is possible that appropriate transition goals do not yield opportunities for students, families, and school staff to implement those goals during the transition process and thereafter. Research has indicated that a gap exists in that parents and teachers alike share a lack of knowledge of employment resources and options for children with disabilities, as well as limited collaboration with employers in the community (Goupil et al., 2002). Furthermore, often the responsibility of attaining and following through with post-secondary employment falls on the parents of students with disabilities (Ankeny et al., 2009). While limited knowledge of community employers is suggested in the research, evidence exists to suggest that employers have positive experiences with employees with intellectual disabilities (Molina & Demchak, 2016). Based on previous literature of transition regarding employment for this population, it can be inferred that a breakdown in collaboration between families, schools, and employers is occurring.

The Person-Environment-Occupation (PEO) model (Law, Cooper, Strong, Stewart, Rigby, & Letts, 1996) from the occupational therapy literature may help to further explain the factors that can either interfere with or improve the effectiveness of the transition planning process, specifically related to employment. In fact, previous research has documented its utility with individuals with disabilities and their transition to adulthood (Stewart, 1998). The model

focuses on person-occupation, person-environment, and occupation-environment interactions, as well as how all three contexts interact with each other. Lexén, Hofgren, & Bejerholm (2013) suggested that a good match between these three factors generates the ideal work performance, whereas a poor match results in obstacles in work settings.

Regarding the person-centered variables, it is imperative that the transition planning process considers a student's preferences, interests, and needs, and most importantly his/her strengths (Konrad, Walker, Fowler, Test, & Wood, 2008). Furthermore, previous research has documented the importance of self-efficacy and self-determination in students with disabilities and their transition to employment and future job performance. Molina and Demchak (2016) attest that choice making in employment is especially imperative for these individuals to achieve self-determination.

Furthermore, it is suggested that professionals aim to understand the student and his/her experiences, including how a disability may influence his/her job performance, or the person-occupation interaction. When the demands of a job activity correspond with a person's ability level, there is greater satisfaction with the job experience (Law et al., 1996). However, a poor match between the two can produce less gratification and poor outcomes. For example, a job setting that requires frequent social interaction would not bode well for a student who has lower interpersonal relationship skills.

Regarding the present study, the person-environment interaction of parent and teacher (i.e., environment) perceptions of a student's (i.e., person's) skills related to employment was explored. Previous disability research has underlined the problems that may occur between a person's disability and his/her environment, including too little or too much support (Hahn, 1984; Jongbloed & Crichton, 1990). Thus, problems related to the disability may in fact, be

associated with problems between the person with a disability and the environment. Particularly with job training for students with intellectual disabilities, one must consider environmental factors within the home and school contexts that may impede or foster positive employment experiences. Results of the present study suggest that there is at least somewhat of a match between parents and teachers and their perceptions of the “person” characteristics of students with intellectual disability and their skills related to employment. Considering transition discord continues to exist, one must consider other factors that may exist within the transition to employment, including if the student and family value employment.

Internal and external variables of the student with intellectual disability must be considered and agreed upon to promote affective transition teams. Consideration of theoretical orientations and existing research further reinforces the importance of team cohesion concerning transition. As teachers and parents are two of the most important roles on IEP and transition teams, it is imperative that both have an accurate understanding of a student’s abilities and level of functioning in various areas as to develop appropriate transition goals and therefore, successful employment placement and outcomes. Future researchers would benefit from applying the PEO model to transition planning for students with disabilities as it could aid in fostering a smoother process. Through this model, families and professionals can access specific decision points and better investigate factors that are creating contention within the planning process, which can aid in problem solving. Furthermore, the model allows for future researchers to investigate other variables and their interactions (e.g., environment and occupation) within transition, specifically related to employment.

## **Limitations and Considerations for Future Research**

Although this research has yielded interesting findings, it also comes with limitations. Since agreement between parents and teachers was found as it relates to students' employment readiness, future research should concentrate on other reasons to explain transition planning difficulties and discord, as well as the possibility that disagreement between parents and teachers still exists regarding a student's skills. The present study examined group differences at the domain level, which included a group of behaviors within a certain genre (e.g., Interpersonal Relations) and not on specific behaviors or skills as revealed by individual items. However, discrepancies between parent and teacher ratings may be observed at the item level of the BWAP: 2. Little research has been completed on agreement between parents and teachers at this level; however, it is important to consider in order to guide goal planning to work on specific skills and address particular problem behaviors (Cai, Kaiser, & Hancock, 2004). Therefore, it would be worth exploring specific behaviors and in which areas the discrepancies exist and reasons behind them. Still plausible is that parents and teachers differ when rating specific behaviors and skills. However, if agreement occurs at this level, then one might consider that disagreement occurs in terms of how much the specific skill or behavior may impede, or act as a barrier, for transition planning and outcomes.

To this point, the BWAP: 2 does not fully account for the comprehensive behavioral difficulties that individuals with intellectual disability often experience. Although one particular item on the BWAP: 2 assesses "major disruptive behaviors," the measure does not address specific behaviors typically observed in individuals with intellectual disability, ranging from inattention and noncompliance to more severe, such as aggression and self-injurious behaviors. Of importance to this study, problem behaviors in students with intellectual disability often

interfere with their overall functioning and have been associated with gaining and retaining employment (Foley, et al., 2013). However, the BWAP: 2 only broadly assesses for problem behaviors. Even though agreement was found between parents and teachers regarding skill level, research has indicated that it is much lower when considering problems behaviors (Cai, Kaiser, & Hancock, 2004). Therefore, it is important to consider an individual's behavioral presentation when choosing the appropriate work placement and level of assistance in conjunction with his/her skill level for employment. As a result, it would be beneficial to include a behavior measure in future studies, such as the Child Behavior Checklist (CBCL) or the Behavior Assessment System for Children-Second Edition (BASC-2).

The population assessed as part of the present study focused on students with intellectual disabilities, but it did not investigate the origins of the intellectual disability, such as a diagnosis of Down Syndrome and Williams Syndrome. Past research has documented differences in learning profiles of children with different syndromes associated with intellectual disabilities. More specifically, children with Down Syndrome often have poor coordination due to hypotonia and verbal-motor difficulties (Maraj, Li, Hillman, Johnson, & Ringenbach, 2003), while children with Williams Syndrome often have more severe deficits in visuospatial cognition (Morris & Mervis, 1999). While learning difficulties are a fundamental result of an intellectual disability, a common myth is that those children are delayed in all areas. However, in reality many children with intellectual disability have scattered profiles with "splinter skills", which are one or two skills that are considerably above their overall learning ability. These could include matching, sorting, and labeling of letters and numbers. While results indicate that parents and teachers generally agree on a student's abilities, it would be worth investigating "splinter skills" that emerge in learning profiles to determine if parents and teachers alike recognize them. By

obtaining more specific information regarding a student's "splinter skills", or strengths, parents and school staff can formulate more individualized IEP and transition goals, which would likely yield more appropriate job placements and successful employment outcomes.

As the present study concentrated on students with intellectual disability, future studies could extend the research field to include students with other diagnoses, such as autism spectrum disorder without accompanying intellectual impairment to determine if parents and teachers continue to demonstrate agreement regarding a student's skills. "Splinter skills" in this population is also common as these students may have savant skills, such as mathematical and memory abilities. However, also common is that these students have social communication deficits. It is thought that this population will likely yield lower scores on the Interpersonal Relations domain and higher scores on the Cognitive Skills domain, which is a profile that most certainly would impact the proper job placement and supports needed.

Another limitation of the study is the variation in IQ tests used by participating school districts, which have different test selection preferences. All of the cognitive assessments used to obtain a student's IQ score have adequate reliability and validity properties and are based on a mean of 100 and standard deviation of 15. However, task demands and skills required vary for each IQ test. For example, the Leiter-R is a nonverbal IQ test and does not take into account verbal language abilities. Using IQ scores that were obtained by administration of the same IQ test for students would have been ideal. Should the study be replicated in the future, it is also recommended that more consistency among cognitive assessments be obtained. Using students who have been administered the same IQ test can allow for more detailed comparisons and conclusions drawn. While scores may have varied slightly from what was obtained on the present study, it is unlikely that this would have produced significant results of the MANCOVA.

In addition, it is common practice as evidenced in the DSM-V to use measures of adaptive behavior to determine severity of intellectual impairment. Moreover, employment readiness takes into account more adaptive behavior skills than simply cognitive skills. Therefore, it may be worthwhile to use other adaptive measures (e.g., *Vineland Adaptive Behavior Scales-Second Edition* or *Adaptive Behavior Assessment System-Third Edition*) in future studies in combination with IQ scores to more accurately identify severity of intellectual disability. This also could have produced differing results than what was obtained, but would be worth further exploring, especially because adaptive behavior measures are often not direct assessments, but instead based off caregiver ratings, which may produce an over- or underestimation of skills.

Recruitment of participants was difficult and produced a small sample size which limited the statistical power of the analyses and possibly the capability to complete additional analyses to further evaluate the relationship between variables. The demographic characteristics of the sample were also limited. The population of students with intellectual disabilities assessed was very broad, ranging from profound to mild cognitive deficits. However, the population was largely made up of those with mild to moderate intellectual disabilities with only about 20% with more severe intellectual disabilities. Future research may take care to further evaluate transition for the severe to profound population; however, it may be unlikely or less frequent that this population is targeted for school to work training and experiences. This is in large part due to their intellectual and adaptive behavior skills not lending themselves to traditional work. While individuals with severe and profound cognitive deficits can certainly learn new skills, forming transition goals around competitive employment may not provide the most benefit to the student. Therefore, it would be worth exploring appropriate and realistic transition goals for this population, specifically.

In addition, many of the participating school districts were of mid-to-high SES in suburban locations, which prevented generalization to low-SES populations and urban or rural school districts. These districts often have additional school staff members (e.g., transition coordinators) and resources, as well as more intact families (Davalos, Chavez, & Guardiola, 2005). As mentioned previously, parents of children with disabilities often feel incompetent or unprepared to participate in transition planning. This seems to even be more of the case for low SES families. In fact, Mayo & Siraj (2015) found that low SES families often have a higher sense of dependency on schools, which in turn, limits them on intervening on behalf of the child and could leave them feeling helpless and frustrated. With this sense of learned helplessness, parents from low SES backgrounds may be less likely to be active members of their child's IEP and/or transition team and thus, struggle to help implement transition goals in the home and community. Conversely, families of high-SES backgrounds can often provide better learning environments through increased knowledge and skills, more financial means for resources to improve academic and adaptive functioning, and larger social networks to aid in learning (Chiu, 2010; Chiu, 2013; & Davalos, Chavez, & Guardiola, 2005). These factors undoubtedly provide a more sophisticated and stimulating environment for children from high-SES backgrounds and as a result, more optimal future outcomes. However, research has made little progress in improving socioeconomic disparities, particularly for post-secondary outcomes of students with disabilities (Giani, 2015). Future research not only needs to continue to address these disparities, but also consider how they impact transition planning of children with disabilities. Theoretical orientations (Bronfenbrenner's Ecological Model and the Person-Environment-Occupation Model) have suggested the importance of positive integration of a variety of systems in a

student's life to produce the most advantageous outcomes, which may be even more true for students of low SES backgrounds.

In conclusion, although the transition-related literature base is growing, limited studies exist that investigate parent and teacher agreement of students with intellectual disabilities and their adaptive skills related to employment. Even less knowledge has been gained regarding how this agreement can help formulate appropriate and realistic transition goals for optimal outcomes. Consequently, there is a continued need for further research to be done in these areas.

Historically, employment with supports has lacked a custom fit for individuals with intellectual disability (Molina & Demchak, 2016). Ultimately, school staff and involved professionals should focus on matching job-training experiences to the cognitive abilities, strengths and preferences, and family characteristics of the student. Furthermore, there continues to be an obvious need for more collaboration among IEP and transition team members, as well with community agencies and employment settings for students with intellectual disability.

## References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental health disorders: DSM-5* (5th ed.). Washington, DC: American Psychiatric Publishing.
- Ankeny, E., Wilkins, J., & Spain, J. (2009). Mothers' experiences of transition planning for their children with disabilities. *TEACHING Exceptional Children*, 41(6), 28-36.
- Bailey, D.B., Simmeonsson, R.J., Buysse, V., & Smith, T.M. (1993). Reliability of an index of child characteristics. *Developmental Medicine & Child Neurology*, 35, 806-815.
- Baker, P. A. (1991). The denial of adolescence for people with mental handicaps: An unwilling conspiracy? *Mental Handicap*, 19, 61-65.
- Baker, B. C. & Geiger, W. L. (1988). Preparing transition specialists: Competencies from thirteen programs. Retrieved from <https://eric.ed.gov>.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Baron, R. A., Branscombe, N. R., & Byrne, D. (2008). *Social Psychology* (12<sup>th</sup> Edition). Boston, MA: Pearson.
- Blacher, J., Baker, B., & Feinfield, K. A. (1999). Leaving or launching? Continuing family involvement with children and adolescents in placement. *American Journal of Mental Retardation*, 104, 452-465.
- Becker, R. L. (2005). *Becker Work Adjustment Profile: Second Edition, User's Manual*. Columbus, OH: Elbern.

- Benitez, D. T., Morningstar, M. E., & Frey, B. B. (2008). A multistate survey of special education teachers' perceptions of their transition competencies. *Career Development for Exceptional Individuals, 32*, 6-16.
- Benz, R. M., Yovanoff, P., & Doren, B. (1997). School-to work components that predict postschool success for students with and without disabilities. *Exceptional Children, 63*, 151-165.
- Blackorby, J. & Wagner, M. (1996). Longitudinal post-school outcomes of youth with disabilities: Findings from the national longitudinal transition study. *Exceptional Children, 62*, 399-413.
- Blanchet, W. J. (2001). Importance of teacher transition competencies as rated by special educators. *Teacher Education and Special Education, 24*, 3-12.
- Bolles, R. & Brown, D. (2001). *Job-hunting for the so-called handicapped*. Berkeley, CA: Ten Speed Press.
- Bölte, S. & Poustkam F. (2002). The relation between general cognitive level and adaptive behavior domains in individuals with autism with and without co-morbid mental retardation. *Child Psychiatry and Human Development, 33*, 165-172.
- Bolton, Brian (2001). Measuring Rehabilitation Outcomes. *Rehabilitation Counseling Bulletin, 44*, 67-75.
- Braddock, D., Hemp, R., & Rizzolo, M. C. (2008). *The state of the states in developmental disabilities*. Washington, DC: Department of Psychiatry and Coleman Institute for Cognitive Disabilities, University of Colorado.

- Bronfenbrenner, U. (1989). Ecological systems theory. In R. Vasta (Ed.), *Annals of child development: Vol. 6. Six theories of child development: Revised formulations and current issues* (pp. 187-249). Greenwich, CT: JAI Press.
- Bronfenbrenner, U. & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon (Editor in Chief) & R. M. Lerner (Vol. Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (5<sup>th</sup> ed., pp. 993-1028). New York, NY: Wiley.
- Brooke, V. A., Revell, G., & Wehman, P. (2009). Quality indicators for competitive employment outcomes: What special education teachers need to know in transition planning. *Council for Exceptional Children, 41*, 58-66.
- Brown, R. (2000). Social identity theory: Past achievements, current problems and future challenges. *European Journal of Social Psychology, 30*, 745-778.
- Browning, J., Osborne, L., & Reed, P. (2009). A qualitative comparison of perceived stress and coping in adolescents with and without autistic spectrum disorders as they approach leaving school. *British Journal of Special Education, 36*, 36-43.
- Butterworth, J. & Pitt-Catsouphes, M. (1997). Employees with disabilities: What managers, supervisors, and co-workers have to say. *Employment in the Mainstream, 22*, 5-15.
- Butterworth, J., Smith, F. A., Hall, A. C., Migliore, A., & Winsor, J. E. (2008). *State Data: The national report on employment services and outcomes*. Boston, MA: Institute for Community Inclusion. Retrieved from [http://www.communityinclusion.org/article.php?article\\_id=250&staff\\_id=2#trendsA](http://www.communityinclusion.org/article.php?article_id=250&staff_id=2#trendsA)
- Cai, X., Kaiser, A.P., & Hancock, T.B. (2004). Parent and teacher agreement on child behavior checklist items in a sample of preschoolers from low-income and predominantly African American families. *Journal of Clinical Child and Adolescent Psychology, 33*(2), 303-312.

- Carpienti, S. & Morgan, S. B. (1996). Adaptive and intellectual functioning in autistic and nonautistic retarded children. *Journal of Autism and Developmental Disorders*, 26, 611-620.
- Carter, E. W., Ditchman, N., Sun, Y., Trainor, A. A., Swedeen, B., & Owens, L. (2010). Summer employment and community experiences of transition-age youth with severe disabilities. *Council for Exceptional Children*, 76, 194-212.
- Centre for Educational Research and Innovation (1986). *Transition to adult and working life for people who are handicapped: Toward a unified concept of transition*. Paris, France: Organization for Economic Cooperation and Development.
- Chadwick, O., Cuddy, M., Kusel, Y., & Taylor, E. (2005). Handicaps and the development of skills between childhood and early adolescence in young people with severe intellectual disabilities. *Journal of Intellectual Disability Research*, 49, 877-888.
- Chambers, D., Rabren, K., & Dunn, C. (2009). A comparison of transition from high school to adult life of students with and without disabilities. *Career Development for Exceptional Individuals*, 32, 42-52.
- Chiu, M. M. (2010). Inequality, family, school, and mathematics achievement. *Social Forces*, 88, 1645-1676.
- Chiu, M. M. (2013). Family structure and education. In J. Ainsworth & G. J. Golson (Eds.), *Sociology of education* (pp. 271-275). Thousand Oaks, CA: Sage.
- Clegg, J., Sheard, C., Cahill, J., & Osbeck, L. (2001). Severe intellectual disability and transition to adulthood. *British Journal of Medical Psychology*, 74, 151-166.
- Colley, D. A. & Jamison, D. (1998). Postschool results for youth with disabilities: Key indicators and policy implementations. *Career Development for Exceptional Individuals*, 21, 145-160.

- Davalos, D. B., Chavez, E. L., & Guardiola, R. J. (2005). Effects of perceived parental school support and family communication on delinquent behaviors in Latinos and White non-Latinos. *Cultural Diversity and Ethnic Minority Psychology, 11*, 57–68. doi:10.1037/1099-9809.11.1.57
- De Los Reyes, A. (2011). Introduction to the special section: More than measurement error: Discovering meaning behind informant discrepancies in clinical assessments of children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 40*, 1–9.
- Diamond, K. E., Spiegel-McGill, P., & Hanrahan, P. (1988). Planning for school transition: An ecological-developmental approach. *Journal of the Division for Early Childhood, 12*, 245-252.
- Dolyniuk, C. A., Kamens, M. W., Corman, H., DiNardo, P. O, Totaro, R. M., & Rockoff, J. C. (2002). Students with developmental disabilities go to college: Description of a collaborative transition project on a regular college campus. *Focus on Autism and Other Developmental Disabilities, 17*, 236-241.
- Dowdy, C. A. & Evers, R. B. (1996). Preparing students for transition: A teacher primer on vocational education and rehabilitation. *Intervention in School and Clinic, 31*, 197-208.
- Dunst, C. J., Trivette, C. M., & Deal, A. G. (Eds.). (1994). *Supporting and strengthening families*. Cambridge, MA: Brookline Books.
- Ellemers, N., de Gilder, D., & Haslam, S. A. (2004). Motivating individuals and groups at work: A social identity perspective on leadership and group performance. *Academy of Management Review, 29*, 459-478.
- Elliott, C. D. (2007). *Differential Ability Scales-Second Edition (DAS-II)*. San Antonio, TX: Harcourt Assessment.

- Estrada-Hernández, N., Wadsworth, J. S., Nietupski, J. A., Warth, J., & Winslow, A. (2008). Employment or economic success: The experience of individuals with disabilities in transition from school to work. *Journal of Employment Counseling, 45*, 14-24.
- Fabian, E., Luecking, R., & Tilson, G. (1995). Employer and rehabilitation personnel views on hiring persons with disabilities: Implications for job development. *Journal of Applied Rehabilitation Counseling, 61*, 42-49.
- Field, S. (1996). Self-determination instructional strategies for youth with learning disabilities. In J. R. Patton & G. Blalock (Eds.), *Transition and students with learning disabilities: Facilitating movement from school to adult life* (pp. 61-84). Austin, TX: PRO-ED.
- Florian, L., Dee, L., Byers, R. & Maudslay, L. (2000). What happens after age 14? Mapping transitions for pupils with profound and complex learning difficulties. *British Journal of Special Education, 27*, 124-128.
- Foley, K-R., Jacoby, P., Girdler, S., Bourke, J., Pikora, T., Lennox, N., ... Leonard, H. (2013). Functioning and post-school transition outcomes for young people with Down Syndrome. *Child: Care, Health & Development, 39*(6), 789–800.
- Freeze, D. R. (1995). *Promoting Successful Transitions for Students with Special Needs*. Gloucester, ON: The Canadian Council for Exceptional Children.
- Garbacz, S.A., Sheridan, S.M., Koziol, N.A., Kwon, K., & Holmes, S.R. (2015). Congruence in parent-teacher communication: Implications for the efficacy of CBC for students with behavioral concerns. *School Psychology Review, 44*(2), 150-168.
- Geiger, D. M., Smith, D. T., & Creaghead, N. A. (2002). Parent and professional agreement on cognitive level of children with autism. *Journal of Autism and Developmental Disorders, 32*(4), 307-312.

- Gemici, S. & Rojewski, J. W. (2010). Contributions of cooperative education in preparing at-risk students for post-high school transition. *Journal of Education for Students Placed at Risk, 15*, 241-258.
- Giani, M.S. (2015). The postsecondary resource trinity model: Exploring the interaction between socioeconomic, academic, and institutional resources. *Research in Higher Education, 56*, 105-126.
- Gil-Kashiwabara, E., Hogansen, J. M., Geenen, S., Powers, K., & Powers, L. E. (2007). Improving transition outcomes for marginalized youth. *Career Development for Exceptional Individuals, 30*, 80-91.
- Glascoc, F. P. (1994). It's not what it seems: the relationship between parents' concerns and children with global delays. *Clinical Pediatrics, 30*, 292-296.
- Glaun, D.E., Cole, K.E., & Reddihough, D. S. (1998). Six-month follow-up: The crucial test of multidisciplinary developmental assessment. *Child: Care, Health, and Development, 24*, 457-472.
- Goupil, G., Tassé, M. J., Garcin, N., & Daré, C. (2002). Parent and teacher perceptions of individualized transition planning. *British Journal of Special Education, 29*, 127-135.
- Greenbaum, B., Graham, S., & Scales, W. (1996). Adults with learning disabilities: Occupational and social status after college. *Journal of Learning Disabilities, 29*, 167-173.
- Grigal, M. Hart, D., & Migliore, A. (2011). Comparing the transition planning, postsecondary education, and employment outcomes of students with intellectual and other disabilities. *Career Development for Exceptional Individuals, 34*, 4-17.
- Grigal, M., Neubert, D. A., Moon, M. S., & Graham, S. (2003). Self-determination for students with disabilities: Views of parents and teachers. *Exceptional Children, 70*, 97-112.

- Hahn, H. (1984). Reconceptualizing disability: A political science perspective. *Rehabilitation Literature, 45*, 362-365.
- Hanley-Maxwell, C., Whitney-Thomas, J., & Pogoloff, S. (1995). The second shock: A qualitative study of parents' perspectives and needs during their child's transition from school to adult life. *Journal of the Association for Persons with Severe Handicaps, 20*, 3-15.
- Hart, D., Grigal, M., Sax, C., Martinez, D., & Will, M. (2006). Postsecondary education options for students with intellectual disabilities. *Focus on Autism and Other Developmental Disabilities, 25*, 134–150.
- Hernandez, B. (2000). Employer attitudes towards disability and their ADA employment rights: A literature review. *Journal of Rehabilitation, 16*, 83-88.
- Ho, H. H., Miller, A., & Armstrong, R. W. (1994). Parent–professional agreement on diagnosis and recommendations for children with developmental disorders. *Children's Health Care, 23*, 137–148.
- Hogansen, J. M., Powers, K., Geenen, S., Gil-Kashiwabara, E., & Powers, L. (2008). Transition goals and experiences of females with disabilities: Youth, parents, and professionals. *Exceptional Children, 74*(2), 215-234.
- Hoyt, W. T. (2000). Rater bias in psychological research: When is it a problem and what can we do about it? *Psychological Methods, 5*, 64–86.
- Hughes, C. & Agran, M. (1998). Introduction to the special section: Self-determination: Signaling a systems change? *Journal of the Association for Persons with Severe Handicaps, 23*, 1-4.

- Human, M.T. & Teglassi, H. (1993). Parents' satisfaction and compliance with recommendations following psychoeducational assessment of children. *Journal of School Psychology, 31*, 449-467.
- Jeynes, W. (2012). A meta-analysis of the efficacy of different types of parental involvement programs for urban students. *Urban Education, 47*, 706–742.
- Jongbloed, L. & Crichton, A. (1990). Difficulties in shifting from individualistic to socio-political policy regarding disability in Canada. *Disability, Handicap, & Society, 5*(1), 25-36.
- Katsiyannis, A., Zhan, D., Woodruff, N., & Dixon, A. (2005). Transition supports to students with mental retardation: An examination of data from the national longitudinal transition study 2. *Education and Training in Developmental Disabilities, 40*, 109–116.
- Kemp, C. & Carter, M. (2000). Demonstration of classroom survival skills in kindergarten: A five-year transition study of children with intellectual disabilities. *Educational Psychology, 20*, 393-411.
- Klassen, R. (2002). A question of calibration: A review of the self-efficacy beliefs of students with learning disabilities. *Learning Disability Quarterly, 25*, 88-102.
- Klaassen, P.W.J, Duijff, S.N., Sinnema, G., Beemer, F.A., Swanenburg de Veye, H.F.N., & Vorstman, J.A.S. (2015). Behavioral Phenotype in Children with 22q11DS: Agreement Between Parents and Teachers. *Psychological Assessment, 27*(1), 272-279.
- Kohler, P. D. (1993). Best practices in transition: Substantiated or implied? *Career Development for Exceptional Individuals, 16*, 107-121.
- Knott, L. & Asselin, S. B. (1999). Transition competencies: Perception of secondary education teachers. *Teacher Education and Special Education, 22*, 55-65.

- Kueneman, R. & Freeze, R. (1997). Individual transition planning: Parents' and teachers' perceptions of the PATH planning process and subsequent plan implementation. *Developmental Disabilities Bulletin, 25*, 1-26.
- Lane, K.L., Carter, E.W., & Sisco, L. (2012). Paraprofessional involvement in self-determination instruction for students with high-incidence disabilities. *Exceptional Children, 78*(2), 237-251.
- LaPlante, M. P., Kennedy, J., Kaye, S. H., & Wenger, B. (1996). *Disability and employment*. Disability Statistics Abstract, No. 11. Washington, DC: U.S. Department of Education, National Institute on Disability and Rehabilitation Research.
- Law, M., Cooper, B., Strong, S., Stewart, D., Ring By, P., & Lett, L. (1996). The Person-Environment-Occupation model: A transactive approach to occupational performance. *CJOT, 63*(1), 9-23.
- Lee, S. H. & Wehmeyer, M. L. (2004). A review of the Korean literature related to self-determination. *Korean Journal of Special Education, 41*, 234-253.
- Lexén, A., Hofgren, C., & Berjerholm, U. (2013). Support and process in individual placement and support: A multiple case study. *Work, 44*, 2012-1360.
- Liss, M., Harel, B., Fein, D., Allen, D., Dunn, A., Dunn, M., ... Rapin, I. (2001). Predictors and correlates of adaptive functioning in children with developmental disorders. *Journal of Autism and Developmental Disorders, 31*, 219-230.
- Liss, M., Harel, B., Fein, D., Allen, D., Dunn, M., Feinstein, C., Morris, R., Waterhouse, L., & Rapin, I. (2001). Predictors and correlates of adaptive functioning in children with developmental disorders. *Journal of Autism and Developmental Disorders, 31*, 219-230.
- List, D. (2001). The consensus group technique in social research. *Field Methods, 13*, 277-290.

- Luecking, R. G. & Crane, K. (2002). *Addressing the transition needs of youth with disabilities through the WIA system. Information brief*. Minneapolis, MN: National Center on Secondary Education and Transition. ERIC Document Reproduction Service No. ED4740000.
- Luecking, R. G. & Fabian, E. (2000). Paid internships and employment success for youth in transition. *Career Development for Exceptional Individuals*, 23, 205-222.
- Luecking, R. G. & Mooney, M. (2002). Tapping employment opportunities for youth with disabilities by engaging effectively with employers. *Research to Practice Brief*, 1, 3-7.
- Madaus, J. W. (2006). Employment outcomes of university graduates with learning disabilities. *Learning Disability Quarterly*, 29, 19-31.
- Madaus, J. W., Zhao, J., & Ruabn, L. (2008). Employment satisfaction of university graduates with learning disabilities. *Remedial and Special Education*, 29, 323-332.
- Magill, B. (1997). ADA accommodations: Don't have to break the bank. *HR Magazine*, 42, 84-89.
- Mallory, B. L. (1995). The role of social policy in life-cycle transitions. *Exceptional Children*, 62, 213-233.
- Mank, D. (2007). Employment. In S. L. Odom, R. H. Horner, M. E. Snell, & J. B. Blacker (Eds.), *Handbook of Developmental Disabilities* (pp. 390-409). New York, NY: Guilford Press.
- Maraj B. K. V., Li L., Hillman R., Johnson J. & Ringenbach S. D. (2003). Verbal and visual instruction in motor skill acquisition for persons with and without Down syndrome. *Adapted Physical Activity Quarterly*, 20, 57-69.

- Marn, L. M. & Koch, L. C. (1999). The major tasks of adolescence: Implications for transition planning with youths with cerebral palsy. *Work: A Journal of Prevention, Assessment and Rehabilitation, 13*, 51-58.
- Martin, J. E., Marshall, L. H., & Sale, P. (2004). A 3-year study of middle, junior high, and high school IEP meetings. *Exceptional Children, 70*, 285-297.
- Mayo, A. & Siraj, I. (2015). Parenting practices and children's academic success in low-SES families. *Oxford Review of Education, 41*(1), 47-63.
- McCrea, L. D. (1993). Frequency of job skills appearing on individualized plans of students with moderate retardation. *Education and Training in Mental Retardation, 28*, 179-185.
- McDevitt, T. M. & Ormrod, J. E. (2002). *Child development and education*. Upper Saddle River, NJ: Prentice Hall.
- McNultry, B. A. (1989). Leadership and policy strategies for interagency planning: Meeting the early childhood mandate. In J. J. Gallagher, P. L. Trohanis, & R. M. Clifford (Eds.), *Policy implementation and P.L. 99-457: Planning for young children with special needs* (pp. 147-167). Baltimore, MD: Paul H. Brookes.
- Migliore, A. & Butterworth, J. (2008). Trends in outcomes of the vocational rehabilitation program for adults with developmental disabilities: 1995–2005. *Rehabilitation Counseling Bulletin, 52*, 35–44.
- Milsom, A. (2007). Interventions to assist students with disabilities through school transitions. *Professional School Counseling, 10*, 273-278.
- Milsom, A., Akos, P., Thompson, M. (2004). A psychoeducational group approach to postsecondary transition planning for students with learning disabilities. *Journal for Specialists in Group Work, 29*, 395-411.

- Mitchell, W. (1999). Leaving special school: The next step and future aspirations. *Disability and Society, 14*, 753-769.
- Mithaug, D. E., Horiuchi, C. N., & Fanning, P. N. (1985). A report on the Colorado statewide follow-up survey of special education students, *Exceptional Children, 51*, 397-404.
- Mithaug, D. E. & Mithaug, D. K. (2007). Is your instruction teacher- or student-directed? In D. E. Mithaug, D. K. Mithaug, M. Agran, J. E. Martin, & M. L. Wehmeyer (Eds.), *Self-instruction Pedagogy: How to Teach Self-determined Learning*, (pp. 31-44). Springfield, IL: Thomas.
- Molina, L. & Demchak, M. (2016). The right to a better life: Using an after-school camp to create customized employment opportunities for rural high school students with severe disabilities. *Rural Special Education Quarterly, 35*(2), 24-32.
- Monda-Amaya, L. E., Dieker, L., & Reed, F. (1998). Preparing students with learning disabilities to participate in inclusive classrooms. *Learning Disabilities Research & practice, 13*, 171-182.
- Morningstar, M. E., Frey, B. B., Noonan, P. M., Ng, J., Clavenna-Deane, B., Graves, P., ... Williams-Diehm, W. (2010). A preliminary investigation of the relationship of transition preparation and self-determination for students with disabilities in postsecondary educational settings. *Career Development for Exceptional Individuals, 33*, 80-94.
- Morris C. A. & Mervis C. B. (1999). Williams syndrome. In S. Goldstein & C.R. Reynolds (Eds.), *Handbook of Neurodevelopmental and Genetic Disorders in Children* (pp. 55–90). New York, NY: Guilford Press.

- National Council on Disability. (2000). *Transition and postschool outcomes for youth with disabilities: Closing the gaps to postsecondary education and employment*. Washington, DC: Author.
- National Organization on Disability. (2004). *Harris survey on employment of people with disabilities*. New York, NY: Author.
- Newman, L. (2005). Postsecondary education participation of youth with disabilities. In M. Wagner, L. Newman, R. Cameto, N. Garza, & P. Levine (Eds.), *After high school: A first look at the postschool experiences of youth with disabilities: A report from the National Longitudinal Transition Study-2* (pp. 4-16). Washington, DC: Office of Special Education Programs.
- Nihira, K., Leland, H., & Lambert, N. (1993). *AAMR Adaptive Behavior Scales-Residential and Community Version* (2<sup>nd</sup> Ed.). Austin, TX: Pro-Ed.
- O'Brien, G. (2006). Young adults with learning disabilities: A study of psychosocial functioning at transition to adult services. *Developmental Medicine and Child Neurology*, 48, 195-199.
- Ofoegbu, N. E. & Azarmsa, R. (2010). Impact of the special education vocational education program (VEP) on student career success. *International Journal of Special Education*, 25, 34-46.
- Panagos, R. J. & DuBois, D. L. (1999). Career self-efficacy development and students with disabilities. *Learning Disabilities Research and Practice*, 14, 25-34.
- Pearpoint, J., O'Brien, J., & Forest, M. (1993). *PATH: A Workbook for Planning Alternative Tomorrows with Hope*. Toronto, ON: Inclusion Press.

- Perry, A., Flanagan, H. E., Geier, J. D., & Freeman, N. L. (2009). Brief report: The Vineland Adaptive Behavior Scales in young children with autism spectrum disorders at different cognitive levels. *Journal of Autism and Developmental Disorders, 39*, 1066-1078.
- Piggott, L. & Houghton, A. (2007). Transition experiences of disabled young people. *International Journal of Lifelong Education, 26*, 573-587.
- Platt, L. O., Kamphaus, R. W., Cole, R. W., & Smith, C. L. (1991). Relationship between adaptive behavior and intelligence: Additional evidence. *Psychological Report, 68*, 139-145.
- Powers, K., Geenen, S., & Powers, I. E. (2009). Similarities and differences in the transition expectations of youth and parents. *Career Development for Exceptional Individuals, 32*, 132-144.
- Roberts, K. D. (2010). Topic areas to consider from high school to postsecondary education for students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 25*(3), 158-162.
- Rogers, B.T., Booth, L.J., Dufy, L.C., Hassan, M.B., McCormick, P., Snitzer, J., ... Zorn, W.A. (1992). Parents' developmental perceptions and expectations for their high-risk infants. *Developmental and Behavioural Pediatrics, 13*, 102-107.
- Roid, G. H., & Miller, L. J. (1997). *Leiter International Performance Scale-Revised (Leiter-R)*. Wood Dale, IL: Stoelting Co.
- Roid, G. H. (2003). *Stanford-Binet Intelligence Scales-Fifth Edition*. Itasca, IL: Riverside Publishing.
- Salmon, N. & Kinnealey, M. (2007). Paving the rough roads: Transition to life beyond the classroom as experienced by students with disabilities and their families. *Exceptionally Education Canada, 17*, 53-84.

- Schalock, R. L., Luckasson, R. A., Bradley, V., Buntinx, W. H. E., Lachapelle, Y., Shogren, K. A., ... Wehmeyer, M. L. (2012). *Intellectual disability: Definition, classification, and system of supports (11<sup>th</sup> Ed.) - User's Guide*. Washington, DC: American Association on Intellectual and Developmental Disabilities.
- Schloss, P. J., Alper, S., & Jayne, D. (1994). Self-determination for persons with disabilities: Choice, risk, and dignity. *Exceptional Children, 60*, 215-255.
- Sheehan, R. (1988). Involvement of parents in early childhood assessment. In T. D. Wachs & R. Sheehan (Eds.), *Assessment of young, developmentally disabled children*. New York, NY: Plenum Press.
- Sheridan, S. M., Kratochwill, T. R., & Elliott, S. N. (1990). Behavioral consultation with parents and teachers: Delivering treatment for socially withdrawn children at home and school. *School Psychology Review, 19*, 33-52.
- Shin, J.Y., Nhan, N.V., Crittenden, K., Valenti, S., Hong, H.T.D. (2008). Agreement on childhood disability between parents and teachers in Vietnam. *International Journal of Disability, Development and Education, 55*(3), 239-249.
- Shore, S. (2010). *Helping your child to help him/her self: Beginning self-advocacy*. Retrieved from [http://www.autismasperger.net/writings\\_self\\_advocacy.htm](http://www.autismasperger.net/writings_self_advocacy.htm).
- Simonsen, M. (2010). *Predictors of supported employment for transitioning youth with developmental disabilities* (Unpublished doctoral dissertation). University of Maryland, College Park.
- Simeonsson, R.J., Edmonson, R., Smith, T., Carnahan, S., & Bucy, J.E. (1995). Family involvement in multidisciplinary team evaluation: Professional and parent perspectives. *Child: Care, Health, and Development, 21*, 199-215.

- Sittlington, P. L. & Frank, A. R. (1990). Are adolescents with learning disabilities successfully crossing the bridge into adult life? *Learning Disabilities, 13*, 97-111.
- Statistics of Canada. (2001). Participants and activity limitation survey: A profile of disability in Canada. Retrieved July 8, 2013 from <http://www.statcan.ca/english/freepub/89-577-XIE/children.htm>.
- Stewart, D. (1998). The transition to adulthood for youth with physical disabilities: A qualitative exploration (Unpublished master's thesis). McMaster University, Ontario, Canada.
- Stone, W. L., & Rosenbaum, J. L. (1988). A comparison of teacher and parent views of autism. *Journal of Autism and Developmental Disorders, 18*(3), 404-414.
- Stratis, E. A. & Lecavalier, L. (2015). Informant agreement for youth with autism spectrum disorder or intellectual disability: A meta-analysis. *Journal of Autism and Developmental Disorders, 45*, 1026-1041.
- Strogilos, V., & Xanthacou, Y. (2006). Collaborative IEPs for the education of pupils with profound and multiple learning difficulties. *European Journal of Special Needs Education, 21*(3), 339-3.
- Sweden, B. L., Carter, E. W., & Molfenter, N. (2010). Getting everyone involved: Identifying transition opportunities for youth with severe disabilities. *Teaching Exceptional Children, 43*, 38-49.
- Tabassam, W. & Grainger, J. (2002). Self-concept, attributional style and self-efficacy beliefs of students with learning disabilities with and without attention deficit-hyperactivity disorder. *Learning Disability Quarterly, 25*, 141-151.

- Thoma, C. A., Held, M. F., & Saddler, S. (2002). Transition assessment practices in Nevada and Arizona: Are they tied to best practices? *Focus on Autism and Other Developmental Disabilities, 17*, 242-250.
- Test, D. W., Aspel, N., & Everson, J. (2006). *Transition methods for youth with disabilities*. Columbus, OH: Merrill/Prentice Hall.
- Test, D. W., Mazzotti, V. L., Mustian, A. L., Fowler, C. H., Kortering, L., & Kohler, P. (2009). Evidence-based secondary transition predictors for improving postschool outcomes for students with disabilities. *Career Development for Exceptional Individuals, 32*, 160-181.
- Todd, S. & Shearn, J. (1996). Time and the person: The impact of support services on the lives of parent of adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 9*, 40-60.
- Trainor, A. A. (2005). Self-determination perceptions and behaviors of diverse students with LD during the transition planning process. *Journal of Learning Disabilities, 38*, 233-249.
- Vig, S. & Jedrysek, E. (1995). Adaptive behavior of young urban children with developmental disabilities. *Mental Retardation, 33*, 90-98.
- Wagner, M., Newman, L., D'Amico, R., Jay, E. D., Butler-Nalin, P., Marder, C., & Cox, R. (1991). *Youth with disabilities: How are they doing? The first comprehensive report from the national Longitudinal transition study of special education students*. Menlo Park, CA: SRI International.
- Ward, K. M. & Thompson, G. (1997). *Provision and progressions: School leavers with special educational needs in further education and training*. Final report to Leverhulme Trust and Scottish Office, Edinburgh.

- Weathers, R. R. & Wittenburg, D. C. (2009). Employment. In A. Houtenville, J. D. Stapleton, C. R. Weathers, & R. V. Burkhauser (Eds.), *Counting working-age people with disabilities: What current data tell us and options for improvement* (pp. 101–143). Kalamazoo, MI: W.E. Upton Institute for Employment Research.
- Wechsler, D. (2003). *Wechsler Intelligence Scale for Children-Fourth Edition (WISC-IV)*. San Antonio, TX: Psychological Corporation.
- Wechsler, D. (2008). *Wechsler Adult Intelligence Scale-Fourth Edition (WAIS-IV)*. San Antonio, TX: Psychological Corporation.
- Wechsler, D. (2014). *The Wechsler Intelligence Scale for Children-Fifth Edition (WISC-V)*. San Antonio, TX: Pearson.
- Wehmeyer, M. L. & Garner, N. (2003). The impact of personal characteristics of people with intellectual and developmental disability on self-determination and autonomous functioning. *Journal of Applied research in Intellectual Disabilities, 16*, 255-265.
- Wehmeyer, M. L., Palmer, S. B., Soukup, J. H., Garner, N. W., & Lawrence, M. (2007). Self-determination and student transition planning knowledge and skills: Predicting involvement. *Exceptionality, 15*, 31-44.
- Wehmeyer, M. & Schwartz, C. (1997). Self-determination and positive adult outcomes: A follow-up study of youth with mental retardation or learning disabilities. *Exceptional Children, 63*, 245-255.
- Wells, T., Sandefur, G. D., & Hogan, D. P. (2003). What happens after the high school years among young persons with disabilities? *Social Forces, 82*, 803-832.
- Whitney-Thomas, J. & Hanley-Maxwell, C. (1996). Packing the parachute: Parents' experiences as their children prepare to leave high school. *Exceptional Children, 63*, 75-87.

Williams, J. M. & O'Leary, E. (2001). What we've learned and where we go from here. *Career Development for Exceptional Individuals*, 24, 51-71.

Williams-Diehm, K. L. & Lynch, P. S. (2007). Student knowledge and perceptions of individual transition planning and its process. *The Journal for Vocational Special Needs Education*, 29, 13-21.

Witte, R. H. (2001). College graduates with disabilities and the Americans with Disabilities Act (ADA): Do they know employment rights? *Learning Disabilities: A Multidisciplinary Journal*, 11, 27-30.

Wolfe, P. S., Boone, R. S., & Blanchett, W. J. (1998). Regular and special educators' perceptions of transition competencies. *Career Development for Exceptional Individuals*, 21, 87-106.

Zetlin, A., & Turner, J. (1985). Transition from adolescence to adulthood: Perspectives of mentally retarded individuals and their families. *American Journal of Mental Deficiency*, 89, 570-579.

Zigmond, N. (2006). Twenty-four months after high school: Paths taken by youth diagnosed with severe emotional and behavioral disorders. *Journal of Emotional and Behavioral Disorders*, 14, 99-107.