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Inclusive Higher Education and Employment: A Secondary Analysis of Program Components

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Inclusive Higher Education and Employment: A Secondary Analysis of Program Components

by

Louise Danielle Roberts-Dahm

A dissertation submitted in partial fulfillment
of the requirement for the degree of
Doctor of Philosophy
with a concentration in Curriculum and Instruction
with an emphasis in Special Education
Department of Teaching and Learning
College of Education
University of South Florida

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Keywords: postsecondary programs, intellectual disability, post-school outcomes, employment predictor

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Abstract

Through secondary analyses of quantitative data obtained from the Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) National Coordinating Center database from the first cohort (2010-2015) of model demonstration sites in Florida, this study examined components of the postsecondary education programs for students with intellectual disabilities that are correlated with employment upon program exit. This study adds to the emergent knowledge base on inclusive higher education by identifying the programmatic components of the postsecondary education programs for students with intellectual disability most correlated with successful transition from college to employment. This information can be used to inform program development and refinement to foster employment upon exit, a worthy outcome that leads to greater quality of life. The academic access program component of inclusive coursework was found to have the strongest correlation with the post-school outcome of paid, competitive employment upon exit. This program component aligns with the established predictors of post-school success for students with disabilities (Mazzotti et al., 2016) and employment for people with intellectual disabilities (Southward & Kyzar, 2017). Areas of agreement are discussed as well as implications for a number of stakeholders.
Chapter One:

Introduction

Excluded from traditional college experiences, students with intellectual disabilities have most often remained in high school settings while their peers without disabilities head off to college (Cranston-Gingras et al., 2015). Students with intellectual disabilities have been excluded from postsecondary education due to stereotypes, low expectations, and lack of understanding by students and family members, and other institutional barriers (Butler, Sheppard-Jones, Whaley, Harrison, & Osness, 2016; Grigal, Hart, & Migliore, 2011; Shogren & Plotner, 2012). They also lag behind their peers in all critical adult outcomes (Grigal, Hart, & Migliore, 2011). Grigal, Hart, and Migliore (2011) contend it is often assumed that students with intellectual disability do not have the skills and abilities needed to access or benefit from college. This is reinforced by Ross, Marcell, and Williams (2013) who note that students with intellectual disabilities experience dismal post-school outcomes and, as a disability group, are the least likely to participate in postsecondary education (Thoma et al., 2011). Students with intellectual disability attend postsecondary education, defined as any institution of higher education, including 2 and 4-year colleges and universities, at a rate of only 30%, compared to 56% of students with other disabilities (Grigal, Hart, & Migliore, 2011). Additionally, students with intellectual disabilities have higher rates of unemployment and underemployment, and earn lower wages than those in other disability categories and people without disabilities (Grigal, Hart, & Weir, 2012; Siperstein, Parker, & Drascher, 2013). For example, the unemployment rate of people with intellectual disability in 2010 was 85%, and of the 15% employed, only 48% received competitive wages and 24% received benefits (Southward & Kyzar, 2017).
Fortunately interest in postsecondary education for students with intellectual disability has expanded recently, due in part to the increased inclusion of students with intellectual disability and other significant disabilities in K-12 education coupled with a societal focus on postsecondary education as a desired outcome for all and increased parental expectations for enrollment in some form of postsecondary education (Butler et al., 2016; Blumberg, Carroll, & Petroff, 2008; Grigal, Migliore, & Hart, 2014). The opportunity for students with intellectual disability to participate in postsecondary education alongside their peers is increasingly a reality in the United States due to provisions within the 2008 reauthorization of the Higher Education Opportunities Act (HEOA) (Cranston-Gingras et al., 2015). Employment is an important outcome of higher education for all students, including those with intellectual disability, and increased employment outcomes have been found for students with intellectual disability who have participated in postsecondary education (Butler et al., 2016; Grigal et al., 2012).

**Purpose of Study**

The purpose of this study is to add to the emergent knowledge base on inclusive higher education by gaining insight into the complex phenomena that contribute to the effectiveness of inclusive higher education program components that produce positive post-school employment for people with intellectual disabilities. Program components include the support and content domains that guide programs of study within inclusive higher education programs. The variables investigated fall under three domains: academic access, career development, and campus membership.

**Research Questions**

Through this study, the following question was addressed: Which components of the
postsecondary education programs for students with intellectual disability contribute to the successful transition outcome of employment?

Specific research questions addressed were:

*Research Question 1:* Based on secondary analyses of data collected on students from 2010-2015 funded Transition and Postsecondary Programs for Students with Intellectual Disability (TPSID) from three programs in Florida, which program components are correlated with the post-school outcome of paid, competitive employment?

*Research Question 2:* How do the program components that are correlated with post-school employment align with the established in-school predictors of post-school success (Mazzotti et al., 2016) and predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017)?

Quantitative data were obtained from the National Coordinating Center database for TPSID programs from the first cohort (2010-2015) and analyzed through secondary analyses of student-level data in pursuit of correlations between the variables extant within the dataset and the post-school outcome of employment for exiters. The secondary analyses of student-level data was conducted to investigate a multivariate correlation through logistic regression to determine a correlation between a dichotomous criterion variable, that of employment upon exit (employed or not), with a set of predictor variables, including various program components, such as academic access (number of inclusive courses), career development (unpaid/volunteer experiences), and campus membership (type of social activities) (Gall, Gall, & Borg, 2007).

Logistic regression was conducted to examine the relationship between the program components (independent variables) and the post-school outcome of employment (dependent variable). The investigated components of inclusive higher education programs were then compared with the
in-school predictors of post-school success (Mazzotti et al., 2016) and the other transition-related predictors of post-secondary competitive employment for people with intellectual and/or developmental disabilities (Southward & Kyzar, 2017). The conceptual basis for this study features a combination of two sets of predictors: one focused on in-school predictors of post-school outcomes (employment, education, and independent living) within secondary transition for students with disabilities in general and the other focused on competitive employment for people with intellectual and/or developmental disabilities. The theoretical relationships between program components and predictors, as well as inclusive higher education programs and secondary transition, are discussed later in this chapter and within the review of literature.

The secondary analyses were conducted using student-level data collected as a requirement of the TPSID National Coordinating Center annual report. Although there were between six and 15 inclusive higher education programs from 2010-2015 in Florida, data were only collected on the three partner institutes of higher education that formed a consortium and were awarded the TPSID grant and thus were required to report to the National Coordinating Center database. As such, only data on these three programs were used for these analyses. The three program partners from the first cohort of TPSID programs in Florida are University of North Florida, Florida Atlantic University, and University of South Florida St. Petersburg. The University of South Florida St. Petersburg was the lead institution for the TPSID grant in Florida.
Rationale

Students with intellectual disabilities have been excluded from traditional college experiences, often remaining in high school settings while their peers without disabilities transition to college (Cranston-Gingras et al., 2015). People with intellectual disabilities have been accessing higher education for several decades (Butler et al., 2016), this has not occurred on a large scale and, as such, trends toward inclusive higher education are relatively recent (Blumberg et al., 2008). This is one of the reasons for the lack of research on the various models and components of postsecondary education programs for students with intellectual disability. Additional reasons for a lack of research related to postsecondary education for students with intellectual disability include the variance between programs and the lack of in-depth research on specific program characteristics (McEathron et al., 2013). There has been significant variability in the postsecondary education programs for students with intellectual disability, which has led to the classification of programs based on their level of inclusiveness with a range from substantially separate to inclusive (Grigal et al., 2012). Further compounding this variability are the inconsistencies around the classification of “intellectual disability” and thus the population served and supports provided by programs (McEathron et al., 2013). While research has suggested that postsecondary education programs for students with intellectual disability are correlated with employment (Grigal & Hart, 2012; Thoma, 2013), the relationship of specific program components that contribute to employment is unclear (Kiernan & Hart, 2011; Lynch & Getzel, 2013; Plotner & Marshall, 2016). This is precisely the gap that this study sought to address though conducting secondary analyses of existing data.
The investigation of the relationship between programmatic features within postsecondary education for students with intellectual disability on employment outcomes is an important area for future research, especially since employment can be a facilitator of increased independence and economic self-sufficiency. While a taxonomy for postsecondary education programs and services for students with intellectual and developmental disabilities were recently developed (McEathron et al., 2013), there is a need to develop a mechanism to compare program components alongside outcomes. Few studies have investigated the relationship between postsecondary education and improved integrated paid employment outcomes for students with intellectual disability. Grigal and colleagues (2012) found that 81% of programs indicated that employment training and career preparation were addressed in their program, and a list of employment supports were provided, such as job shadowing, job development and placement services, and job coaching (Grigal et al., 2012). While there is initial research about the employment supports provided in postsecondary programs for students with intellectual disability, such as through survey results, more in-depth investigation is required to address the types of activities or components of postsecondary education programs for students with intellectual disability that lead to an increased likelihood of post-school employment. Although such a connection is in development (Grigal et al., 2014), researchers call for a more in-depth look at the factors associated with the college experience and the quality of post-school outcomes (Grigal, Hart, & Weir, 2011). Research should continue to build on extant research, including the number of students with intellectual disability who are currently enrolled in postsecondary education, how they participate, and their outcomes (Thoma et al., 2011). The current study was an initial step in this direction as correlations between employment upon exit of the program and
specific programmatic components of students’ experiences while in postsecondary program were investigated. The researcher further examined the relationships between the programmatic component that was correlated with employment with extant predictors in secondary transition and postsecondary education.

**Theoretical Framework**

This study incorporated pragmatism as the theoretical framework as it guided both thinking about the theory in context and also allowed for reflection on the consequences of knowledge and how it can be used for social change in theory and practice. Pragmatism was chosen for this study because of its utility in recognizing the contextual, emotional, and social aspects (Morgan, 2014). Recently, much of the dialogue around pragmatism as a paradigm has focused on practicality; however, this theory was used in a more critical manner with a focus on social justice throughout this study. The term “critical” here is paralleled with progressive education and the goal in inquiry in the first place is societal change. Further, Dewey thought of philosophy as criticism (Stone, 1999). This is consistent with Popkewitz’s (1999) explanation that “pragmatism brings together the ideas of philosophical discourses about the historical contingencies about ‘truth’ with ideas of the social frame and the ethical project of social change in a democracy” (p. 12). Morgan (2014) contends that pragmatism can be used for social research, regardless of whether the research is qualitative, quantitative, or mixed methods.

Pragmatism’s utility within the context of inclusion and the history of special education is unpacked within this section. One of the two crucial elements within Dewey’s concept of democracy, “frequent and equitable social interaction among individuals,” supports inclusion (Fitch, 2010, p. 26). Fitch (2010) explains how the practice of labeling and categorization has
 resulted in two separate systems of education: general and special. He links this movement toward an unequal, dual system that gives an “appearance of equity” to the misinterpretation and application of pragmatism as one with a more scientific positivist leaning. The researcher is in agreement with the move away from the positivist approach to pragmatism, a more progressive approach which positions the research findings to impact change in the inequities present for this population, instead of remaining stuck or cynical that labels and systems cannot change (Fitch, 2010). Fitch (2010) instead advocates for reconnecting pragmatism from a Deweyan tradition to further examine labeling deviance theory within special education. Labeling deviance theory is associated with symbolic interactionism as well as social capital, which are often theories associated with special education and also inclusive higher education. For example, in order to obtain the support required to be successful, an individual with a disability required a diagnosis or label that explains the need for support. People with disabilities, especially while they are students, may lack or lose social capital based on their disability label. “Dewey points out that this isolation and segregation… manifests itself in the very ways we think and perceive the world” (Fitch, 2010, p. 24). Thus, there is also a moral imperative for the purpose of the field of inclusive higher education from a pragmatic perspective: to provide access to students with intellectual disabilities in order to ensure they have the same opportunities to “perceive the world” as everyone else. Further, in Democracy and Education, Dewey (1916) contends that, “The emphasis must be put on whatever binds people together in cooperative human pursuits and results” (p. 115). In today’s context, ensuring that all individuals have access to higher education is a way to ensure that they can contribute to society. Overall, this research supports “…the very
idea of education as a freeing of individual capacity in a progressive growth directed to social aims” (p. 115).

Dewey emphasized the human experience while recognizing that prior experiences alone are fallible. Pragmatism emphasizes questions about “why” to do specific research, instead of just merely “how” to do research. The researcher chose pragmatism as a lens in which to conduct this inquiry because it created a space for the researcher to reflect on her values and prior experiences as part of this study. The alignment of the pragmatism paradigm as a lens in which to conduct this secondary analyses is discussed further in the chapters three and five.

**Conceptual Basis**

The conceptual basis for this study features a combination of two sets of predictors: one focused on in-school predictors of post-school success (Mazzotti et al., 2016) and the other transition-related predictors of post-secondary competitive employment for people with intellectual and/or developmental disabilities (Southward & Kyzar, 2017). Test et al. (2009) first identified evidence-based in-school predictors of post-school success for youth with disabilities through a systematic review of correlational literature, which yielded 16 predictors. Mazzotti and colleagues (2016) further extended these findings through a systematic review of NLTS2 secondary analyses articles published after 2009 which led to the identification of four new in-school predictors of post-school success. There are currently 20 identified in-school predictors that promote positive post-school outcomes (e.g., education, employment and independent living) for all students with disabilities. Recently, Southward and Kyzar (2017) identified seven transition-related predictors of post-secondary competitive employment for students with intellectual and/or developmental disabilities. Table 1 provides a side-by-side list of the two sets of predictors, including the disability and outcome foci for each predict set.
Table 1

*Side by Side List of Predictors Used to Identify Variables to Study in Secondary Analyses*

<table>
<thead>
<tr>
<th>Predictor Set</th>
<th>Secondary Transition Predictors (Mazotti et al., 2016)</th>
<th>Competitive Employment for SWID (Southward &amp; Kyzar, 2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability Type</td>
<td>All disability types</td>
<td>Intellectual disability</td>
</tr>
<tr>
<td>Focus</td>
<td>Positive post-school outcomes (general)</td>
<td>Competitive Employment</td>
</tr>
<tr>
<td>Predictors</td>
<td>1. Career Awareness</td>
<td>1. Paid Employment While Attending High School</td>
</tr>
<tr>
<td></td>
<td>2. Community Experiences</td>
<td>2. Vocational Skills Instruction</td>
</tr>
<tr>
<td></td>
<td>4. Goal Setting</td>
<td>4. High School Completion</td>
</tr>
<tr>
<td></td>
<td>5. Inclusion In General Education</td>
<td>5. IEP Goals Relating To Competitive Employment</td>
</tr>
<tr>
<td></td>
<td>7. Occupational Courses</td>
<td>7. Participation In Post-Secondary Education</td>
</tr>
<tr>
<td></td>
<td>8. Paid Employment / Work Experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Parent Expectations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Parental Involvement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. Program Of Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12. Self-Advocacy / Self-Determination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13. Self-Care / Independent Living</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14. Social Skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15. Student Support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16. Transition Program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17. Travel Skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18. Vocation Education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19. Work Study</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20. Youth Autonomy / Decision-Making</td>
<td></td>
</tr>
</tbody>
</table>
Agreement among predictors

While many predictors from the two sets were similar, there were five predictors that were almost identical: high school completion, prior paid employment, vocational instruction/education, self-determination, and parent/family expectations. The overlap of predictors is highlighted in Table 2.
## Table 2

*The Two Sets of Predictors, Grouped by Think College Cornerstones of Practice*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Think College’s Standards-Based Conceptual Framework - Cornerstones of Practice</th>
<th>Predictors not a fit within TC framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit Exam Requirements/High School Diploma Status</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>High School Completion</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Career Awareness</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Community Experiences</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Goal Setting</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Parent Expectations</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Family Expectations</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Inclusion in General Education</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Occupational Courses</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Social Skills</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Self-Advocacy/ Self-Determination</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Self-Involvement</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Parent Involvement</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Program of Study</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Paid Employment/Work Experience</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Paid employment while in HS</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Travel Skills</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Self-Care/Independent Living</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Interagency Collaboration</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Student Support</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Vocation Education</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Vocational Skills Instruction</td>
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<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
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<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
</tr>
<tr>
<td>Youth Autonomy/Decision-Making</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
<td>ISP, PCE, ISP, PCE, ISP, PCE, ISP, PCE</td>
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</table>
### Think College’s Standards-Based Conceptual Framework - Cornerstones of Practice

<table>
<thead>
<tr>
<th>Academic Access</th>
<th>Career Development</th>
<th>Campus Membership</th>
<th>Self-Determination</th>
<th>Predictors not a fit within TC framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISP</td>
<td>PCE</td>
<td>ISP</td>
<td>PCE</td>
<td>ISP</td>
</tr>
<tr>
<td>Transition Program</td>
<td>Work Study</td>
<td>IEP Goals related to Competitive Employment*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation in post-secondary education *</td>
<td>IEP Goals related to Competitive Employment*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ISP: In-school predictors of post-school success (Mazotti et al., 2016)

PCE: Predictors of Competitive Employment for Students with Intellectual and/or Developmental Disabilities (Southward & Kyzar, 2017)

* PCE: Predictor is repeated across cornerstones.

**Bolded and shaded items are in direct alignment for both sets of predictor**
Think College Standards-Based Conceptual Framework (2011)

The Think College Standards-Based Conceptual Framework (2011) identifies academic access, career development, campus membership and self-determination as cornerstones of practice for inclusive higher education. There are also four elements of service or programmatic infrastructure that support inclusive higher education sustainability, which include alignment with college systems and practices, coordination and collaboration, sustainability, and ongoing evaluation. The Standards-Based Conceptual Framework for Research and Practice in Inclusive Higher Education was developed based on best practices in employment, community living and K-12 education as well as encompassing specific considerations at the postsecondary level (Grigal, Hart, & Weir, 2011). As such, it is important to consider the predictors in these related fields alongside the inclusive higher education framework. Figure 1 features a graphic depiction of the Think College Standards-Based Conceptual Framework.
In the determination of the conceptual basis for this study, the four Cornerstones of Practice within the Think College’s Conceptual Framework for Research and Practice in Inclusive Higher Education (2011) were utilized as a grouping mechanism to look at the two sets of predictors (Mazzotti et al., 2016; Southward & Kyzar, 2017). Both the in-school predictors of post-school success (Mazzotti et al., 2016) and the predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017) were categorized by the four cornerstones based on best fit. Of the 20 in-school predictors, none were repeated across the four Think College cornerstones; however, two of the predictors of competitive employment were repeated. Of all 27 predictors, only three were not easily placed
into cornerstones of practice categories: parent (or family) expectations, parent involvement, and interagency collaboration. Table 2 features the predictor groupings through a crosswalk of the two sets of predictors across the four Think College’s Cornerstones of Practice (2011) to form the conceptual framework that guides this study. In particular, the three theories form a bridge from the broader secondary transition field, which includes all students with disabilities, to the specific field of inclusive higher education for students with intellectual disability to see whether aspects of programs are addressed through the data in the secondary analyses. Figure 2 provides a graphical representation of the process of connecting existing frameworks from broad to more specific utilized to develop the conceptual framework for this study.
Figure 2. Graphical Representation of the Conceptual Basis and Rationale for Predictor Selection

- **Secondary Transition Predictors** (Mazotti et al., 2016)
  - Across disability categories
  - Range of outcomes
- **Competitive Employment for SWID** (Southward & Kyzar, 2017)
  - ID specific
  - Competitive employment
- **Inclusive Higher Education Cornerstones of Practice** (2011)
  - ID Specific
  - IPSE focused
- **Conceptual basis for this study**
  - Forms bridge from broader secondary transition field for all SWD to specific field of IPSE and employment
Delimitations of the Conceptual Framework

Cobb and colleagues (2013) developed predictor clusters as part of their study which is similar to those proposed by Test et al. (2009) and Mazzotti et al. (2016). These clusters were not incorporated into the conceptual framework alignment matrix for this study since all of the clusters were covered by the two predictor sets utilized. For example, Cobb et al. (2013) clustered 15 of the initial in-school predictors of post-school success from Test et al. (2009) into eight clusters: career and technical education, career awareness or development programs, community-based work experience programs, employment while in school, functional life-skills development programs, inclusion in general education, interagency collaboration programs, and student support including parent involvement.

While a taxonomy for postsecondary education programs and services for students with intellectual and developmental disabilities (McEathron et al., 2013) was discovered through the literature review, it was not utilized for the conceptual framework as the dataset did not lend itself to covering the content within the taxonomy. For example, the taxonomy included four domains (organizational, admission, support, and pedagogical), and only some of the pedagogical domains would have been applicable to the existing dataset. The number of integrated course enrollments is one of the academic components within the pedagogical domain and was included in the secondary analyses, as is consistent with the two predictor sets as well as the Think College framework. While both of these publications are relevant to the current study, the researcher ensured coverage of the various aspects in both the evidence review and taxonomy through the use of the two chosen predictor sets by Mazzotti et al. (2016) and Southward and Kyzar (2017).

Now that inclusive higher education is increasingly a reality, there is a need to look at
predictors of post-school success in post-secondary programs specifically. The conceptual basis of this study combines aspects of secondary education and higher education in order to inform the field of inclusive higher education. The bridging of these two areas is necessary since there is a research base for the types of secondary transition support that have helped students with intellectual disability succeed within the K-12 environment and post-school. This information can help inform the program components, support and experiences required within the postsecondary education for students with intellectual disability.

**Warranted Assertions / Findings**

Through this study, the researcher sought to identify the programmatic components of the postsecondary education programs for students with intellectual disability most correlated with successful transition from college to employment. The hypothesis was that the combination of inclusive courses, unpaid/volunteer experiences, and social participation on campus would all be correlated with paid employment for students with intellectual disabilities upon exit. The key finding obtained through the secondary analyses of data collected on students from 2010-2015 funded Transition and Postsecondary Programs for Students with intellectual disability (TPSID) from three programs in Florida secondary analyses of the first cohort of Florida data is that the academic access program component of inclusive coursework was found to be most correlated with and predictive of the post-school outcome of paid, competitive employment upon exit. This program component aligns with the established predictors of post-school success (Mazzotti et al., 2016) and employment for people with intellectual disability (Southward & Kyzar, 2017).

**Consequences of Knowledge / Educational Significance**

**National Significance**
The current issues that potentially impact postsecondary education for students with intellectual disability include the lack of research in the field related to positive post-school outcomes coupled with low expectations for students with intellectual disability, lack of information or understanding about postsecondary options, and the funding to attend these programs. It is anticipated that postsecondary education options for students with intellectual disability will continue to expand, which is evident as a second round of TPSID funding was released in 2015 for another five year period, as well as the increased number of approved Comprehensive Transition Programs (CTPs). Both of these initiatives have increased the opportunities for students with intellectual disabilities by providing additional funding. A focus on employment is timely given the recent passage of the Workforce Innovation and Opportunity Act (WIOA) which assists job-seekers in obtaining the employment, education, training, and support services necessary to succeed in the labor market (United States Department of Labor, Employment and Training Administration, n.d.), as well as the increasing number of states adopting the Employment First philosophy, where employment is the first and preferred outcome for all people, regardless of ability (Association of People Supporting Employment First, 2017). Further, the trend in the labor market for low-skill jobs has been dwindling for some time (Siperstein et al., 2013), and postsecondary education may be a path toward middle-skilled occupations.

Local Significance – Florida

Within the state of Florida, the 2013 K-20 Pathways Task Force recommended that all institutions of higher education have a program to serve students with more severe disabilities. In 2015, the Florida Postsecondary Comprehensive Transition Program Act (FS 1004.6495) which created the Florida Center for Students with Unique Abilities was passed to increase
postsecondary education and employment opportunities for students with intellectual disability through access to meaningful postsecondary education credentials and the opportunity to have a meaningful campus experience. In addition, in Florida the special diploma graduation option was repealed in 2014, which has ensured students with significant disabilities can graduate with a standard high school diploma, effectively removing the barrier of a non-traditional diploma on college admission. In addition, Florida has adopted the Employment First philosophy and has an interagency cooperative agreement and partnerships across the state as established through Executive Order 11-161.

Through the review of the research on outcomes of students with intellectual disability who engage in postsecondary education programs, it is apparent that further research is needed on the specific components of these programs that contribute to the positive post-school outcome of employment. This study addressed the following question: What aspects of postsecondary education programs for students with intellectual disability contribute to successful employment upon exit from college?

**Operational Definition of Terms**

This section provides definitions for key terms used throughout this research project.

*Employment*, as used in this research project, refers to competitive, paid employment, operationally defined by the Council for Exceptional Children’s Division on Career Development and Transition (DCDT) Publications Committee as, “existing standard jobs in a company or organization or customized work assignments negotiated with the employer but these activities always feature competitive pay paid directly to the student by the employer” (Mazzotti, Rowe, Cameto, Test, & Morningstar, 2013, p. 1).
Inclusive higher education (also known as inclusive postsecondary education and transition programs for students with intellectual disability) incorporates transition programs on college or university campuses that enable students with intellectual disability to be socially and academically integrated with students without disabilities to the maximum extent possible. This includes the opportunity to enroll in coursework, live in inclusive residences, develop employment and career skills through integrated work experiences, and participate in social activities with peers without disabilities in college (Shanley, 2011).

**Intellectual disability.** The American Association on Intellectual and Development Disabilities (AAIDD) definition of intellectual disability has emerged as the most frequently used definition: “a disability originating prior to the age of 18 and is characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills” (Grigal et al., 2012, p. 225). Postsecondary education is defined as “a 2-year or 4-year institution of higher education or a vocational/adult education institution” (Grigal et al., 2012, p. 225).

**Program components.** In this study, program components are the guiding framework or structure of the support and domains that guide the programs of study within inclusive higher education programs. Common program components include career development and internships, campus involvement, peer mentors, and access to academic coursework, and these components often overlap predictors of post-school success within the general secondary transition field.

**Limitations, Delimitations and Assumptions**

The nature of conducting a secondary analyses poses general limitations that were experienced in this study. An initial limitation is that the data are situational and were collected for some other purpose; thus, the specific information sought by the researcher may not be collected or easily extracted (Johnston, 2014; O’Leary, 2014). For example, this study sought to
investigate program components that facilitate post-school employment; however, the data contained in the dataset was based on student-level reporting and did not address the full range of programmatic or pedagogical components that the researcher initially sought to investigate. Another common limitation of secondary analyses of existing data is that the researcher did not participate in the data collection process and therefore may not be aware of the data collection procedures (Johnston, 2014). The researcher did take steps to remedy this through contacting the original researchers. In addition, the researcher has the unique perspective of how the data were entered from a programmatic standpoint, as this was previously one of her responsibilities.

Another limitation of this study is the non-generalizability due to the small sample consisting of student-level data from one state (N=210). The goal of this research is not to generalize for all postsecondary programs but rather to identify program components that could enhance post-school outcomes or that can be used by other programs seeking to develop programs or augment their students’ opportunities to obtain gainful employment. While conducting a secondary analyses “minimizes the relationship between the researcher and the researched” (O’Leary, 2014, p. 243), the researcher’s unique positionality within the research context is discussed in the third chapter.

This study focused only on program components that could be gleaned from the existing dataset, which was focused on student-level data. While descriptive data about student characteristics and experiences that occurred prior to their enrollment in a postsecondary program or outside of the postsecondary program was included for context in descriptive data only, this was not the focus of the study. Further, while inclusive postsecondary programs have been preliminarily linked with many positive outcomes (Butler et al., 2016), the only post-school outcome examined in this study was employment.
Overview of Dissertation

This study examined the inclusive higher education program components that promote the post-school employment of people with intellectual disabilities. Program components, such as the support and content domains that guide programs of study within inclusive higher education programs, were compared with existing secondary transition and inclusive postsecondary frameworks for alignment. This dissertation features chapters explaining how existing research and methods inform inclusive higher education program components that facilitate employment. Chapter 2 provides a review of the literature on inclusive higher education programs, such as the nature, outcomes, and benefits of these programs, as well as employment for people with intellectual disability in general and also specific to postsecondary program participation. Gaps in the research are also highlighted in Chapter 2. Chapter 3 reviews the method and procedures employed throughout this study, including details about the sample, data collection, data analyses, ethical considerations, and limitations. Literature related to the research method is presented within Chapter 3. The results are presented and explained in Chapter 4. Chapter 5 concludes with a discussion of the results and includes implications for future research for inclusive postsecondary programs for students with intellectual disabilities.
Chapter Two

Review of Literature

Introduction

The chapter is organized into three sections and the information can be thought of in the shape of a funnel, beginning with some broad contextual background and then focused on the most recent literature on the specific field of inclusive postsecondary education. This literature review begins with historical and contextual background information on inclusion, secondary transition, and employment. The second section features the emergence and early days of inclusive postsecondary programs and the research produced from the programs, including the nature of the programs and program characteristics. The final section includes a systematic review of the literature focused on the outcomes of inclusive postsecondary programs, specifically employment outcomes, which reflects studies similar to the current study.

Search Strategy

In order to further contextualize this study, this literature review begins with a historical section focused on the history of special education that formed the foundation of inclusive postsecondary programs. In order to develop the first section of the literature review, a number of historical documents and articles were referenced. However, as the literature becomes more focused on inclusive postsecondary programs and outcomes of graduates, the literature included in this review is increasingly more current. For example, with the exception of two landmark articles on inclusive postsecondary education programs (Neubert, Moon, Grigal, & Redd, 2002; Zafft, Hart, & Zimbrich, 2004), the articles used in this review were authored within the last 10 years to encompass the rise in publications on inclusive higher education programs, which
proceeded from the reauthorization of the Higher Education Opportunity Act (HEOA) of 2008. Further, the majority of the articles included were published after 2011. This is consistent with the funding of TPSID programs and other movements following the HEOA reauthorization which made provisions for inclusive higher education.

The databases utilized for this search include Education: Academic Search Premier, A SAGE Full-Text Collection, Education Full Text (EBSCO), JSTOR Education, and ERIC (EBSCO). The keywords included were as follows: postsecondary education, intellectual disability, transition and postsecondary programs for students with intellectual disability (TPSID), and employment. Reference sections of the most relevant articles were also reviewed. Initially, the Think College: College Options for People with Intellectual Disability website was reviewed to aid in the identification of keywords as well as locate landmark publications and key contributors in the field. The list of staff publications was helpful in orienting to the specific field of inclusive higher education. The Think College website also featured information, such as practice briefs and an online module on the standards of inclusive higher education, which guided the conceptual basis of this study. The National Technical Assistance Center on Transition (NTACT) website was also reviewed to obtain recent research and practice guidance related to the predictors of post-school success. Four dissertations related to postsecondary education and outcomes were also included (Dukes, 2001; Feldman-Sparber, 2015; Knollman, 2015; Papay, 2011). Both primary and secondary sources were utilized within this literature review to provide a comprehensive picture of the field of postsecondary education for students with intellectual disability. Secondary sources, such as a 2011 literature review of the early research postsecondary programs for students with intellectual disability from 2001-11 (Thomas et al., 2011), a 2017 literature review on predictors of employment for students with intellectual
disability (Southward & Kyzar, 2015) and commentary about the HEOA, were utilized to orient to the field while primary research provided empirical groundwork. The databases and search terms yielded over 70 articles and book chapters. However, publication titles, abstracts, and keywords were reviewed in order to narrow the inclusion of articles to those relevant to the topic of employment outcomes for students with intellectual disability who attended postsecondary education programs. The 23 articles included in this review were only those that included aspects of postsecondary education programs for students with intellectual disability and programmatic components and/or employment outcomes.

Section 1. Historical Background Related to Secondary Transition, Inclusion and Employment

Since a pragmatic theoretical framework undergirds this study, the literature review begins with the social history of the problem (Noddings, 2005). Beginning with a chronological look at secondary transition and the emergence of inclusive postsecondary programs for students with intellectual disabilities, this section will provide historical context and provide background information on inclusion, secondary transition, and employment. Although this information is not part of the systematic review of the literature, it provides necessary foundational information to more fully understand the field of inclusive postsecondary education, which has roots in each of these fields.

Influential Legislation

This section will briefly review federal laws that have influenced access to postsecondary education for students with disabilities historically. Madaus, Kowitt, and Lalor (2012) suggest that federal legislation have “played a significant role” in expanding access to college for people with disabilities. Legislation specific to students with intellectual disabilities will be
discussed further in this section as more recent legislation addresses this specific population.

**Individuals with Disabilities Education Act (IDEA).** The concept of special education and access to free, appropriate public education (FAPE) for all children was first passed in 1975 as the Education for All Handicapped Children Act (P.L. 94-142). The Education for All Handicapped Children Act refined the concept and practice of individualized instruction and redefined the role of parents in the education of people with disabilities. It made education possible for half a million previously unserved children with severe disabilities and improved services for several million students with disabilities.

The first National Longitudinal Transition Study (NLTS1), which grew out of a mandate in the 1983 amendments to the Education for All Handicapped Children Act, highlighted the needs of secondary students (Knollman, 2015; Wells, Sandefur, & Hogan., 2003). The sample for the NLTS1 contained more than 8,000 transition-aged youth between 1987-1991 (Wells et al., 2003). The study results indicated dismal employment outcomes and postsecondary education enrollment of students with disabilities, especially when compared to their peers without disabilities. In particular, 20% of youth with disabilities were unemployed three to five years after high school and only about 14% reported enrollment in postsecondary education (Blackorby & Wagner, 1996). There was another longitudinal study, the National Educational Longitudinal Study of 1988 (NELS); however it omitted students with more severe disabilities (Wells et al., 2003), such as intellectual disabilities, and as such is not included in this literature review.

Transition became a term in the 1980s resulting from a federal focus on post school outcomes for students with disabilities (Mazzotti et al., 2013). Will (1986) contributed to the national conversation to further the movement of access, inclusion, and quality of instruction
following the Education for All Handicapped Children Act. She explains that, “…although special programs have achieved much, other problems have emerged which create obstacles to effective education of students with learning problems” (Will, 1986, p. 8). While the law expanded education for many youth with disabilities, to address the challenge of meeting the needs of students with severe disabilities more special programs were developed resulting in unintended consequences, including a fragmented approach to providing services, dual systems (general and special education), and the stigmatization of students. Students with disabilities were often separated from their peers without disabilities.

The 1990 reauthorization of IDEA renamed the law and strengthened its mandates. IDEA 1990 required educators to plan, coordinate, and deliver transition services to youth beginning at age 16 or earlier (Dukes, 2001; Morningstar & Mazzotti, 2014). An updated revision to IDEA occurred in 1997, which continued to strengthen the focus on the provision of transition services. For example, the age at which to begin transition planning was moved up from 16 to 14, a report on progress toward IEP goals was included as part of the IEP, and new stipulations to plan for the age of majority were included in the new IDEA. While this law had immediate implications for primary and secondary education, IDEA has also impacted postsecondary education by equipping students with disabilities with the knowledge and skills required for and awareness of postsecondary education options (Dukes, 2001). These provisions of IDEA have resulted in more students with disabilities interested in and prepared for college (Dukes & Shaw, 1998). In the late 1990s, Kohler (1998) developed a *Taxonomy for Transition Programming* and advocated for an educational approach that was transition-focused and not an “add on” for students with disabilities (Mazzotti et al., 2013). The 2004 reauthorization of IDEA and the National Longitudinal Transition Study-2 (NTLS2) will be discussed later in this chapter.
**Higher Education Act (HEA).** This bipartisan law, originally passed in 1965, “profoundly changed the relationship between the federal government and institutions of higher education” by making provisions to finance higher educational opportunities (Madaus et al., 2012, p. 33). The HEA sought to improve educational attainment for qualified persons by reducing economic barriers to college access. In particular, the HEA articulated financial aid packages, expanded scholarship and work-study programs, as well as other loan programs based on need. There were seven (7) reauthorizations to the HEA between 1965 and 2008. The Higher Education Opportunity Act (HEOA) of 2008 is the most recent authorization and will be discussed later in the chapter.

**Other Related Legal Mandates.** This section describes related legal mandates that have increased access and awareness of postsecondary education for youth with disabilities. The Rehabilitation Act of 1973 was the first federal civil rights legislation to protect the rights of persons with disabilities (Dukes, 2001). The law applies to any organization receiving federal funding, since most colleges and universities in the United States do receive some form of federal funding, the law has many implications to expand the rights of people with disabilities at the postsecondary level. In particular, the rights of persons with disabilities entering colleges and universities are addressed in Section 504 of the Rehabilitation Act. The Americans with Disabilities (ADA) was established in 1990 and reinforced the mandates of Section 504 of the Rehabilitation Act by ensuring that people with disabilities are protected from discrimination, regardless of whether an organization receives federal funds. The ADA provided a renewed focus on equal educational access across the environment, resulting in considerations throughout all institutional departments (Dukes, 2001).

**Transition in the New Millennium**
Kohler and Green (2004) contend that the early IDEA transition mandates have not been broadly or consistently implemented. This was evident in 2000 as the National Council on Disability found transition ranked high in non-compliance, with 88% of states failing to ensure compliance. The legislation since 2004 (IDEA) has sought to align special education with general education (Lee, Wehmeyer, Palmer, Soukup, & Little, 2008). Despite an increased focus on transition through mandates in the 2004 Individuals with Disabilities Education Act (IDEA), students with disabilities continue to experience sub-par post-school outcomes as compared to their peers without disabilities. The postsecondary outcomes of individuals with disabilities at the time of the President’s Commission on Excellence in Special Education (2002) report were bleak. For example, students with disabilities were unemployed, or underemployed, after leaving high school, with an unemployment rate around 70%, which had not improved in over a decade. Many individuals with disabilities were leaving school without earning a diploma and were less likely to attend postsecondary education than their peers without disabilities. The Commission put forth four recommendations to improve postsecondary outcomes and transition services, including 1) the need for clear instructions and requirements to facilitate a smooth post-secondary transition, using similar terminology across fields; 2) the need for transition efforts to begin; 3) increased student and parent involvement in the transition planning process; and 4) continued and improved data collection by both special education and rehabilitative service fields to provide an overall call for seamless service delivery across fields.

The impact of this report is evident in the elements of transition contained in the 2004 IDEA. For instance, the IDEA of 2004 specifies that transition services must be based on the individual student, developed through a results-oriented process, and designed to promote student movement to post-school activities; the IDEA of 2004 presented a shift in focus on
transition planning to outcomes rather than processes, therefore establishing a stronger connection between transition and the general education curriculum. Developed as a follow up to the first study, the NLTS2 followed a nationally representative student sample of transition-aged youth with disabilities from multiple sources in five waves between 2001 and 2009 (Knollman, 2015; Newman et al., 2011).

**Initial predictors of positive post-school outcomes.** Test and colleagues (2009) identified the need for a review of correlational research in secondary transition regarding evidence-based practices that were correlated with positive post-school outcomes, including postsecondary education, employment, and independent living. As such, they utilized a systematic literature review from 1984 to 2009 of the secondary transition correlational literature utilizing Thompson et al.’s (2005) quality indicators of correlational research. The systematic review included 22 articles and yielded 16 predictor categories: career awareness, community experiences, exit exam requirements/high school diploma status, inclusion in general education, interagency collaboration, occupational courses, paid employment/work experience, parental involvement, program of study, self-advocacy/self-determination, self-care/independent living skills, social skills, student support, transition program, vocational education, and work study. All 16 predictors were significantly correlated with post school employment (Test et al., 2009). Vocational education coursework was the most common predictor variable, followed by work or internship experience while in school, inclusion in general education, and social skills (Test et al., 2009).

**Higher Education Opportunity Act (HEOA).** The postsecondary education legislation would soon compliment the public education law. Just four years after the IDEA was reauthorized in 2004 with a renewed focus on transition, the amended HEA, renamed as the
Higher Education Opportunity Act (HEOA) of 2008, was the first federal guidance provided related to higher education access for students with intellectual disability (Grigal, Hart, Smith, Domin, & Weir, 2017; Lee, 2009). Madaus, Kowwitt, and Lalor (2012) reinforced that while the HEOA contained a number of changes from previous authorizations, “perhaps the most notable changes are those that impact students with [intellectual disabilities]” (p. 37). The HEOA significantly improved access for students with intellectual disabilities to college, in part by providing access to federal work-study funds, Pell Grants, and Supplemental Educational Opportunity Grants (Madaus, Kowitt, & Lalor, 2012). HEOA defined students with intellectual disability and removed the barriers associated with lacking a high school diploma. HEOA also authorized capital investment for a model demonstration program for the development and expansion of postsecondary education programs through a coordinating center (Lee, 2009).

**Transition in the Tens (2010-Present): Towards Evidence-Based Practices and Predictors**

Earlier in this chapter, the predictor-identification efforts of Test et al. (2009) were described. Though similar in purpose to Test et al. (2009), Cobb and colleagues (2013) deviated from Test et al.’s (2009) study through utilization of the Institute of Education Sciences (IES) What Works Clearinghouse (WWC) standards and process to review literature over the last 20 years focused on direct measures of students’ post-high school outcomes. They found 43 eligible studies, which included a randomized control trial, well-documented quasi-experimental designs, or single-case design (Cobb et al., 2013). The researchers realigned 15 of the 16 predictors from Test et al. (2009) into eight broader clusters: career and technical education, career awareness or development programs, community-based work experience programs, employment while in school, functional life-skills development programs, inclusion in general education, interagency
collaboration programs, and student support including parent involvement (Cobb et al., 2013). Cobb and colleagues (2013) removed the high school diploma from the study because it reflects state policy instead of a program measure.

Mazzotti and colleagues (2016) conducted a systematic review of NLTS2 secondary analyses articles to add evidence to the existing predictors identified by Test et al. (2009) and identify new predictors of post-school success. Through a review of 11 articles published between 2009 and July 2014, four additional predictors (parental expectations, youth autonomy/decision-making, goal setting, travel skills) were identified by Mazzotti et al., (2016), boosting the list of predictors of post-school success to 20.

Burnes and colleagues (2017) investigated the relationship between nonacademic behavior constructs measured by the Transition Assessment and Goal Generator (TAGG) and postsecondary education and employment outcomes. Three constructs predicted both postsecondary education and employment: interacting with others, student involvement in the IEP, and community support. One additional construct was found to be predictive of postsecondary employment: employment (paid job during high school). This finding reinforces earlier studies and establishes evidence of predictive validity which supports the use of TAGG results for transition planning.

Dukes and colleagues (2017) developed a taxonomy that can be used for organizing and examining extant and future literature on postsecondary students with disabilities. The taxonomy was developed through an extensive literature mapping process on the extant literature from the last 50 years and validated through an iterative process using former editors of the *Journal of Postsecondary Education and Disability*. The taxonomy has four domains: student-focused support, program and institutional-focused support, faculty and staff-focused support, and
concept and systems development. Through the development of this taxonomy, Dukes and colleagues (2017) found that there are few promising practices and much more research is required to determine “what works” to support students with disabilities in postsecondary education. They suggest looking at models from the K-12 arena for the identification of evidence-based practices.

**Increased focus on employment as a post-school outcome.** Employment has been a sought-after post-school outcome for years and several recent studies have focused on employment of people with intellectual disabilities. This is reinforced through a number of policies and legislation, including IDEA 2004. Some have even considered employment to be a “benchmark for assessing the success of special education” (Siperstein, Parker, & Drasher, 2013, p. 158). The following five studies are presented in chronological order. Siperstein, Parker, and Drascher (2013) surveyed a nationally representative random sample of 1,017 parents/guardians of individuals with intellectual disabilities over the age of 21 in order to document the employment situation of working-aged adults with intellectual disabilities across the United States. Their study sample was comprehensive and included people with intellectual disabilities who had never been in the labor force or sought employment. They found the labor force participation rate of adults with intellectual disabilities between the ages of 21-64 was 44%. One striking finding is that 28% of working-age adults with intellectual disabilities have never been in the workforce.

Simonsen and Neubert (2013) examined community employment outcomes for 338 transitioning youth with intellectual and other development disabilities in one state 18 months after exiting high school. Through their study, they found that 42.9% of participants were engaged in some kind of paid work in the community (not sheltered workshops). However, they
were the first to differentiate between integrated employment (works in the community with typical peers and is paid at least minimum wage by employer) and other paid community work (works in a paid community job alongside other peers with disabilities [enclave or crew] and/or makes less than minimum wage). This distinction is significant because only 14.2% of the participants in their study had integrated employment, where they work more than 35 hours per week. They used multinomial logistic regression to find predictors of paid, integrated employment and found that family expressed preference for paid work in the community, paid work during secondary school, and strong community mobility skills were the three statistically significant variables.

Nord and Hepperlen (2016) examined which supports were most strongly associated with integrated employment of people with intellectual and developmental disabilities. Using extant data, they examined a sample of 39,277 people with intellectual and developmental disabilities that were using Vocational Rehabilitation services. They were the first to investigate the aggregate effect of a client receiving more than one service. The results of their logistic regression found that people receiving three job-related services were 16 times more likely to be employed. Indeed, “less is more” does not apply to receiving job-related supports. They were particularly surprised by the magnitude of increased odds of employment for individuals receiving more than two job-related services. Another finding from this study is that on-the-job support alone does not increase the chance of employment retention.

Mamun and colleagues (2017) recently analyzed longitudinal data from the Youth Transition Demonstration (YTD) evaluation using a dynamic-panel estimation model to test whether employment experiences in the first year effected employment in the third year. The results of their study reinforce earlier findings that early paid work experience leads to future
employment. This study is significant because most of the extant research in this area has been correlational and this model provides great confidence and is more rigorous in identifying a causal relationship between early work experiences and future employment trajectories.

Southward and Kyzar (2017) conducted a systematic literature review in which they identified 13 articles published between 2005 and 2015 that were specific to competitive employment for individuals with intellectual disability. This study utilized the results of the Test et al. (2009) correlational literature review, which identified in-school predictors of post-school success and further focused on a specific population (students with an intellectual or developmental disability) and outcome (competitive employment) from the general post-school success predictors across disability categories and the broader field of secondary transition. Through this, they identified seven predictors of the outcome of competitive employment that are unique to secondary transition and people with intellectual disabilities. The seven predictors were paid employment while attending high school, vocational skills instructions, family expectations, high school completion, Individual Educational Plan (IEP) goals relating to competitive employment, self-determination, and participating in postsecondary education (Southward & Kyzar, 2017).

Section 2. New Postsecondary Options within Transition: Inclusive Postsecondary Programs for Students with Intellectual Disabilities

Now that the historical aspects and general secondary transition predictor research has been examined, this section describes information on the emergence and early days of inclusive postsecondary programs as well as more recent research produced from programs, including the nature of the programs and program characteristics. Neubert, Moon, Grigal, and Redd (2002) conducted the first comprehensive literature review on postsecondary education programs for
people with intellectual disabilities in order to identify a philosophical basis and practices for these programs as well as summarize the research on the efficacy related to these programs. They found that initial literature from the 1970’s featured program descriptions and position papers for postsecondary education programs for people with intellectual disabilities. The 1980’s focused on the role of institutions of higher education related to Section 504 and the need to provide access for people intellectual disabilities to college campuses. There was a shift in the 1990s toward providing postsecondary programs to people with intellectual disabilities who were still enrolled in public schools, which aligns with increased transition focus from the IDEA amendments of 1990 and 1997.

Prior to 2008, there were college and university programs for this student population; however, there were wide inconsistencies among these programs (McEathron et al., 2013). Postsecondary education programs for students with intellectual disability were highlighted in 2008 with the reauthorization of the HEOA, as well as through promising practices for transition services as required by the 2004 Individuals with Disabilities Education Act (IDEA) (Thoma et al., 2011). Thus, the HEOA amendments were the first federal guidance provided related to higher education access for students with intellectual disability and sought to remedy the high variability of services provided at postsecondary education for students with intellectual disability through the definition of comprehensive transition and postsecondary education programs for students with intellectual disability (TPSID) (Grigal et al., 2012). HEOA also authorized capital investment for a model demonstration program for the development and expansion of postsecondary education programs. In 2010, the U.S. Department of Education funded 27 model demonstration projects to institutions of higher education in 24 states to implement such services in collaboration with local education agencies (Folk, Yamamoto, &

Grigal, Hart, and Weir (2012) reported the results of a 2009 survey of 149 programs from 39 states in the United States designed to collect descriptive information on characteristics and practices of present postsecondary education programs for students with intellectual disability, resulting in an overview of the status of postsecondary education programs for students with intellectual disability before the TPSID programs were established 2010. Over half (51%) of the postsecondary education programs for students with intellectual disability were at four-year colleges and university, 40% were located at 2-year colleges, and only 10% at trade/technical schools (Grigal et al., 2012). They found that employment, inclusion with same-age peers, independent living skills, and participation in college classes were among the purposes identified for the postsecondary education programs. For the majority of survey respondents, the primary goals of students with intellectual disability on campus were to have better access to employment opportunities and to improve their independent living skills, which highlighted a fundamental difference from traditional students who attend college, whose primary focus is academics (Grigal et al., 2012). Grigal and colleagues (2012) found that the majority of programs in 2009 were a mixed model of inclusion as indicated by the fact that less than a quarter of the students in these programs were enrolled in college classes with peers without disabilities. This study found that 39% of programs provided access to residential services for students with intellectual disability (Grigal et al., 2012). These included residence halls, on-campus apartments, off-campus apartments, fraternity/sorority houses, and special sections of dorms or housing exclusively for students with intellectual disability.

Enrollment In and Unique Needs of Postsecondary Education For Students With Intellectual Disabilities
Although impressive gains have been made in many postsecondary outcomes, including increased rates of self-determination and employment, people with intellectual disability continue to have the lowest rate of enrollment in postsecondary education with just 28%, compared to 60% of youth without disabilities and 39% of youth with disabilities (Blumberg, Carroll, & Petroff, 2008; Grigal et al., 2014). This starts with expectations in high school. For example, there were statistically significant differences found between students with intellectual disability and students with any other type of disability in the frequency of goals to attend a 2- and 4-year college (Grigal, Hart, & Migliore, 2011). In an analyses of data from the NLTS2, which compared the transition planning of students with intellectual disability and autism with other disability categories, Shogren and Plotner (2012) found that a low number of students with intellectual disability had college listed as a goal in transition planning, which reflects low expectations and points to a reason for limited enrollment in postsecondary education for this population of students. McEathron and colleagues (2013) contend that the number of postsecondary education programs for students with intellectual disabilities is in a state of flux, with new programs in development, older programs phasing out, and others that are in the process of redevelopment in response to the changing nature of the field.

Students with intellectual disability have support needs that differ from other students with disabilities on college and university campuses. This is the reason for the current need for postsecondary programs for students with intellectual disability since they provide greater levels of comprehensiveness with respect to transition services (Grigal, Hart, & Migliore, 2011). Grigal, Hart, and Weir’s (2012) report on the pre-TPSID programs in 2009 found that services provided for students with intellectual disability were not typically provided to other students, such as independent living training, 24 hour staff support, and paid roommates.
Section 3. Taking a Closer Look at Postsecondary Programs for Students with Intellectual Disabilities: Existent Research on Program Characteristics and Outcomes

This section features a systematic review of the literature on specific programmatic considerations and outcomes, especially employment, which has emerged from the most recent studies on postsecondary programs for students with intellectual disabilities. Folk, Yamamoto, and Stodden (2012) describe that a fundamental belief of the TPSID initiative is that students with intellectual disability, “will ultimately achieve better employment outcomes as a result of their college education” (p. 262).

Characteristics of Postsecondary Program for Students with Intellectual Disabilities

McEathron and colleagues (2013) received funding from the National Institute on Disability and Rehabilitation Research (NIDRR) to develop a taxonomy to describe the characteristics of postsecondary programs for students with intellectual disabilities. The taxonomy is based from a sample of 21 programs which was about 20% of programs in operation during that time. Further, seven (33%) of the programs included in this study were model demonstration sites part of the first cohort of TPSID funding. Through an iterative process of reviewing interview data, program materials, and survey responses, they constructed a taxonomy which has four (4) domains, 16 components, and more than 100 elements. The four domains are organizational, admissions, support, and pedagogical. They offer many ideas for potential uses of this taxonomy and discuss is applicability from research to policy to practice. For example, the authors created a matrix to compare profiles of postsecondary programs that would be used by students and their families to see the options available. This program profile can also be used by program administrators to create comparable program profiles and to reflect on their program structures for future changes. For researchers and program developers, McEathron and colleagues (2013) suggest comparing outcomes among programs. They also discuss the use of
this taxonomy for policy makers since it can be used to help them understand these programs, make comparisons among programs, and determine next steps for development and funding.

**Outcomes**

Thoma and colleagues (2011) conducted a literature review of postsecondary programs for students with intellectual disability by surveying the literature between 2001 and 2011. They found that few studies attempted to determine participant outcomes and that cross-study comparison was not possible, among other limitations. Until 2011, Zafft et al. (2004) was the only study that sought to answer the question of whether students with intellectual disability who participated in postsecondary education experiences had improved employment outcomes (Thoma et al., 2011). Bouck (2014) found that paid employment coupled with opportunities to live independently while in school ensured the acquisition of life skills. Thus, it is logical to provide these program components and other transition services in the age-appropriate environment, such as a college campus, to enable students with intellectual disability to learn and interact with their peers without disabilities who also attend college (Thoma et al., 2011).

Postsecondary education leads to successful employment, which then leads to financial stability and the freedom to live independently. Thus, postsecondary education has been viewed as “an increasingly important prerequisite to independent adult living” (Zafft et al., 2004, p. 1). Independent living also encompasses social inclusion and the development of friends and community contacts, which also facilitate employment opportunities. Blumberg and colleagues (2008) contend that postsecondary education “supports the development of knowledge, skills, and relationships that foster financial and social success, civic participation, and … quality of life” (p. 634). A life of fulfillment and productivity enables individuals to have options, and the capability to choose how to spend their time is a major goal of many postsecondary education programs for students with intellectual disability (Zafft, Hart, & Zimbrich, 2004). The rate of
independent living shortly after high school graduation for students with mild intellectual
disability was found to be 12.1%, which is half that of students with disabilities in general
(24.7%) and students without disabilities after high school exit (28%) (Bouck, 2014). There is
little information available on the independent living outcomes of postsecondary programs for
students with intellectual disability.

Postsecondary education for students with intellectual disability has become an area of
interest to a variety of stakeholders, especially because people with intellectual disability
“continue to be plagued by sustained high rates of unemployment” (Grigal et al., 2014, p. 190).
Even students with mild intellectual disability experience dismal post-school outcomes,
including an employment rate of less than 50%, which is not surprising given the low rate
conducted a secondary analyses of the NLTS-2 database in which they compared students with
intellectual disability to students with other disabilities with regard to post-school transition
goals. In their comparison of predictors and the employment outcomes, they found that a post-
school transition goal of postsecondary education was the only predictor associated with a
greater likelihood of employment for students with intellectual disability (Grigal, Hart, &
Migliore, 2011). Furthermore, postsecondary education program attendance was correlated with
a greater likelihood of employment for students with intellectual disability (Grigal, Hart, &
Migliore, 2011). Interestingly, this conclusion is specific to students with intellectual disability,
which reinforces the uniqueness of the support needs that students with intellectual disability
have to be included in postsecondary education.

Simoes and Santos (2016) found that individuals with intellectual disability had a lower
quality of life than people without intellectual disability and found employment to be one of the
predictors of increased quality of life. This finding reinforces earlier findings that employment plays an important role in the improvement of quality of life for individuals with intellectual disability (Kober & Eggleton, 2005; Siperstein et al., 2013). The opportunities afforded through inclusive higher education programs have been commended for the positive results of improved student access, outcomes, and overall increase in quality of life (Folk et al., 2012; Shanley, 2011; Simoes & Santos, 2016).

Butler and colleagues (2016) investigated the relationship between higher education and outcomes around employment, health, relationships, and medications by surveying students who had completed at least two semesters of college in Kentucky (N=19) using the National Core Indicators (NCI) Adult Consumer Survey (ACS). They found that participation in higher education can positively impact a number of life outcomes across domains, such as career paths, health, and relationships. While this study is small in scope, the results support the relationships between community-based competitive employment and higher education. Butler and colleagues (2016) also identified next steps for future research and practice, including problem solving around service systems.

**Employment as a Focus**

This section investigates the employment outcomes of postsecondary education programs for students with intellectual disability to understand the impact that postsecondary education has on employment rates for this population. As a vital component in career development and expansion of earning potential over a lifetime, higher education is essential whether one has a disability or not, and postsecondary education increases the potential for competitive employment (Grigal et al., 2012; Grigal et al., 2014). Through a secondary data analysis of the Rehabilitation Services Administration’s 911 data, Grigal and colleagues (2014) reported that
higher employment rates and earning potential for adults in the U.S. are consistently linked to higher education. This is reinforced by research findings that students with disabilities who attend postsecondary education are more likely to be competitively employed and obtain higher earnings over time than those who do not attend postsecondary education, as referenced by Blumberg et al. (2008) in their study of an inclusive liberal arts program. This is reinforced by Zafft, Hart, and Zimbrich (2004) who conducted a matched cohort follow-up study with 40 young adults with significant disabilities, including those who participated in postsecondary education and those who did not. They found that postsecondary education experience increased the chance that a student would be employed in competitive work and that students who participated in postsecondary education and who were engaged in competitive employment were less likely to need employment supports compared to their counterparts without postsecondary education. Not only does postsecondary education help secure employment, but it also facilitates individuals to secure jobs that earn higher wages (Grigal et al., 2012). For example, Grigal and colleagues (2014) found that people who exited vocational rehabilitation (VR) programs after postsecondary education earned a wage of $87 more per week. Furthermore, even though students with intellectual disability do not typically earn a college or university credential, those who were exposed to postsecondary education were more likely to find jobs that pay higher wages compared to those without any postsecondary education experience (Grigal et al., 2014).

Moore and Schelling (2015) conducted a comparative case report which included perspectives of program graduates (students with intellectual disabilities) and program directors from two postsecondary education programs and compared results from interviews and surveys with these participants alongside NTLS2 data for a comparative group that did not attend postsecondary education. This comparative case report sought to determine the effects of
postsecondary education on employment for people with intellectual disability. This study is one of the few that includes the perspectives of individuals with intellectual disabilities. Moore and Schelling (2015) found that both programs (specialized and integrated) resulted in increased employment rates. They found that postsecondary education did not drastically reduce the gap in income earned, with a slight reduction in the median income gap for those who were enrolled in the integrated program.

**Gaps and Suggestions for Future Research**

There is a lack of research on the various models of postsecondary education programs for students with intellectual disability due to relatively recent trend toward inclusive higher education (Blumberg et al., 2008, p. 623). For example, just a decade ago, research on the positive outcomes of postsecondary program participation was limited (Zafft, Hart, & Zimbrich, 2004). The pervasive low expectations and attitudinal barriers that persist toward people with intellectual disability who access higher education are also obstacles (Folk et al., 2012; Grigal & Hart, 2010). Although access to postsecondary education for students with intellectual disability is more readily available than ever, funding has been identified as the greatest challenge, and it is likely that most will not have access to student aid to attend postsecondary education (Grigal et al., 2012). Comprehensive Transition Programs (CTP) alleviates this barrier somewhat; however, in 2012, only 14 of the 6,632 postsecondary education institutions in the U.S. were a CTP. Even today, there are only 68 CTPs (U.S. Department of Education, Office of Federal Student Aid, n.d.). This means that only the students who attend the approved CTP institutions had access to federal grants or work-study funds to support the expense of postsecondary education for students with intellectual disability (Grigal et al., 2012).

The gaps in research related to postsecondary education for students with intellectual disability include the variance between programs and the lack of in-depth research on specific
program components. There has been significant variability in the postsecondary education programs for students with intellectual disability, which has led to the classification of programs based on their level of inclusiveness ranging from substantially separate to inclusive (Grigal et al., 2012; McEathron et al., 2013). The wide variability observed could be attributed to many factors, such as the initial establishment of programs based on local philosophy and needs rather than on broad based definitions or approaches (Grigal et al., 2012). The investigation of the impact of postsecondary education for students with intellectual disability on employment outcomes, student perspectives and experiences, and programmatic features are important areas for future research. A mechanism to compare across programs should be established. It is important to identify how participation in college results in elevated expectations for students with significant disabilities from their family, friends, and employers, among others (Zafft et al., 2004).

There are few studies that have investigated the relationship between postsecondary education and improved integrated paid employment outcomes for students with intellectual disability. Although such a connection is emerging (Grigal et al., 2014), researchers call for a more in-depth look at the factors associated with the college experience and the quality of post school outcomes following the experience (Grigal, Hart, & Weir, 2011). Grigal and colleagues (2012) found that 81% of programs indicated employment training and career preparation was addressed in their program and a list of types of employment support was provided, including job shadowing, job development and placement services, and job coaching, among others (Grigal et al., 2012). Although the survey results provide some indication of the employment supports provided in these programs, a more in-depth look at how each program addresses employment is warranted. While there is initial research about the employment supports provided in postsecondary programs for students with intellectual disability, further investigation is required.
to address the types of activities or components of postsecondary education programs for students with intellectual disability that lead to increased likelihood of post-school employment.

The outcome of employment should be studied in further detail, including the type of employment, salary information, and employment field. There is a huge discrepancy in earned income among people with intellectual disabilities (Grigal, Hart, & Weir, 2012; Moore & Schelling, 2015; Siperstein, Parker, & Drascher, 2013). It is worthwhile to explore whether and/or how postsecondary education could reduce this gap. Employment data such as industry, hours worked, and other information would also be helpful to collect and compare across programs to identify trends.

Students with intellectual disabilities have a great deal to share with researchers and practitioners from their experiences with postsecondary education. Future research should include the insights of postsecondary students with intellectual disability about their suggestions for improvement of their postsecondary education. Since these are young adults, their self-advocacy and self-determination skills are in development through postsecondary education participation; thus, bringing relevant perspectives that researchers need to advance the field. In fact, Zafft, Hart, and Zimbrich (2004) called for, “research on the total student experience in postsecondary education to identify the nature of intellectual and social growth for youth with disabilities including significant disabilities” (p. 6). Additional studies that survey or interview current or former students from postsecondary programs should be designed, similar to Moore and Schelling (2015).

Program features and outcomes should be examined to enable comparisons across program types and student outcomes. It is important to further investigate the programmatic
features that result in positive inclusive educational opportunities and positive outcomes, like employment (Thoma et al., 2011). Research should continue to build on existent research, including the quantity of students with intellectual disability who are currently enrolled in postsecondary education, how they participate, and the outcomes (Thoma et al., 2011).

**Summary**

This chapter began with a broad contextual look at secondary transition and related policies that led us to where we are today. The middle section of this chapter focused the emergence of inclusive postsecondary programs and the research produced from the programs, which are largely descriptive in nature. This chapter concluded with a systematic review of the literature focused on the outcomes of inclusive postsecondary programs. The current issues that face postsecondary education for students with intellectual disability include the lack of research in the field coupled with low expectations for students with intellectual disability and lack of funding. Through the review of the research on employment outcomes of students with intellectual disability who participate in postsecondary education programs, it is apparent that further research is needed on the specific components of these programs that contribute to the positive post-school outcomes of employment. Thus, there needs to be targeted cross-program studies that seek to incorporate the student perspectives in order to identify the aspects of the postsecondary education programs that facilitated their ability to gain employment. Specifically, the following question should be addressed: What aspects of the postsecondary education programs for students with intellectual disability are correlated with and predictive of successful transition to employment? Successful program completers who are employed should be consulted to find out their perceptions of programmatic aspects that they found most helpful to find and sustain employment.
Chapter Three

Method

Through the review of the research on employment outcomes of students with intellectual disability who engage in postsecondary education programs, it is apparent that further research is needed on the specific components of these programs that contribute to the positive post-school outcome of employment. Throughout this study, the following question was addressed: Which components of the postsecondary education programs for students with intellectual disability contribute to the successful transition from college to employment?

Quantitative data were obtained from the National Coordinating Center database for TPSID programs in Florida from the first cohort (2010-2015) and analyzed through a secondary analyses of student-level data in pursuit of correlations between the variables extant within the dataset and the post-school outcome of employment for completers. The secondary analyses of student-level data was conducted to investigate a multivariate correlation through logistic regression to determine a correlation between a dichotomous criterion variable, that of employment upon exit (employed or not), with a set of predictor variables, including the various program components, such as academic access (number of inclusive courses, accommodations received), career development (unpaid/volunteer experiences and number of paid jobs), and campus membership (number and type of social activities) (Gall et al., 2007). The program components of inclusive higher education programs investigated were then compared with predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017), as well as post-school success within the broader field of secondary transition (Mazzotti et al., 2016). Logistic regression was conducted to examine the relationship between the program components (independent variables) and the post-school
outcome of employment (dependent variable).

Program personnel, policy makers, students, and parents can make informed decisions about inclusive higher education programs when quantitative data are analyzed with regard to the aspects that correlate to improved post-school outcomes. Table 3 provides an overview of the relationship of the research questions to the methodology to be used.
### Table 3

**Research Question/Methodological Approach Match**

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Data Collection Methods</th>
<th>Analyses</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Based on a secondary analyses of data collected on students from 2010-15 funded Transition and Postsecondary Programs for Students with intellectual disability (TPSID) from three programs in Florida, which program components are most correlated with the post-school outcome of paid, competitive employment?</td>
<td>Student-level information from NCC database, including number of course enrollments, career development and social activities</td>
<td>Run initial correlations on demographic information as well as student-level data to determine where to apply logistic regression. Logistic regression analyzes aspects of data collected to investigate which program components are predictive of employment upon program exit. Specific variables to be investigated include: academic access (course enrollments – inclusive quantity); career development (internships, job shadowing, volunteering); campus membership (participation in social activities).</td>
<td>Students with greater number inclusive course enrollments, career development activities, and participation in social activities are more likely to exit the postsecondary program with paid employment.</td>
</tr>
<tr>
<td>2. How do the program components that are correlated with or predictive of post-school employment align with the established in-school predictors of post-school success (Mazzotti et al., 2016) and predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward &amp; Kyzar, 2017)?</td>
<td>Components related to increased chance of employment from RQ1; Predictor lists (Table 1)</td>
<td>Compare the components from RQ1 for alignment with the two predictor lists (Table 1) to determine whether the correlations drawn from RQ1 are consistent with existing predictor lists.</td>
<td>The program components from RQ1 will align with the two established predictor models.</td>
</tr>
</tbody>
</table>
Context of the Study and Database

The first cohort of TPSID model demonstration grants were awarded in 2010 by the Office of Postsecondary Education (OPE) and were five-year grants awarded to 27 institutions of higher education. All of the model demonstration sites were required to report program and student-level data to the TPSID National Coordinating Center. Think College at the Institute for Community Inclusion, University of Massachusetts Boston served as the National Coordinating Center for the 27 TPSID model demonstration projects from 2010-2015. Among other roles, the National Coordinating Center served to evaluate the TPSID projects and build a valid and reliable knowledge base around program components.

The Florida dataset utilized for this study includes data from a consortium of three (3) programs at the following institutions of higher education: University of South Florida St. Petersburg, University of North Florida, and Florida Atlantic University/Lynn University. Florida was one of 11 TPSID sites that received funding as a consortium and the University of South Florida St. Petersburg served as the lead institution for this consortium. The program that originated at Lynn University was transferred to Florida Atlantic University in 2013, but the dataset includes both sets of student records.

The secondary analyses were conducted using student-level data collected as a requirement of the TPSID National Coordinating Center annual report. Although there were between six and 15 inclusive higher education programs from 2010-2015 in Florida, data were only collected on the three partners that were awarded the TPSID grant and thus were required to report to the National Coordinating Center database. As such, only data on these three programs were used for this analyses.

Researcher’s Role within this Context
While conducting secondary analyses “minimizes the relationship between the researcher and the researched” (O’Leary, 2014, p. 243), the researcher’s positionality within the research context should be noted. The researcher has been employed at one of the postsecondary programs since its inception and has served in many capacities within the program, including mentor, coordinator, and director. Some of these roles included the responsibility of collecting student- and program-level data, as well as entering the data into the NCC database where the dataset was pulled. While this may inhibit the ability to be objective, this familiarity may permit her to perceive more detail and context in the dataset. However, the researcher is cognizant of the potential for introducing bias in the description of program features throughout the data analyses. The relationship limitation is not likely to impact the secondary analyses of the database because not all of the student data included was from the program where the researcher works. Morgan (2014) describes that the knower and the known are inseparable. In this study, the researcher’s values and past experiences provide context to the inquiry.

**Research Design**

Through a secondary analyses of existing data from the National Coordinating Center, such as academic access (number of inclusive courses), career development (unpaid/volunteer experiences) and campus membership (social activity participation), correlation and logistic regression were used to determine the relationships between these variables and the outcome variable of employment upon program exit. Following the results of the initial research question, the variables identified as having a predictor relationship were then analyzed for correspondence with the conceptual framework and existing predictor sets.

A crosswalk of the two sets of predictors across the four Think College’s (2011) Cornerstones of Practice described in the first chapter forms the conceptual framework which guides this study. In particular, the three theories (Think College’s Standards-Based Conceptual
Framework Cornerstones of Practice [2011]; Mazzotti et al.’s [2016] in-school predictors of post school success; Southward and Kyzar’s [2017] employment predictors for students with intellectual and developmental disabilities) form a bridge from the broader secondary transition field, which includes all students with disabilities and connects to the specific field of inclusive higher education for students with intellectual disability to see which aspects of programs are addressed through the data in the secondary analyses. There are a number of predictors not evident in the dataset; thus, the researcher narrowed down the predictors by broader Think College Cornerstones of Practice. The variables analyzed through this study were selected from three of the four Cornerstones of Practice categories based on availability in the dataset. Data related to the fourth Cornerstone of Practice category, self-determination, was not included in this dataset since it was collected through a separate survey from the National Coordinating Center. The variables and related detail for the first research question are listed in Table 4 below. Further information about the variables is described in the following section.
Table 4

Descriptions of the Variables

<table>
<thead>
<tr>
<th>Think College’s Standards-Based Conceptual Framework - Cornerstones of Practice Category</th>
<th>Predictor</th>
<th>Related data/variable in dataset</th>
<th>Variable Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Access</td>
<td>Number of inclusive courses</td>
<td>Yes</td>
<td>Continuous; Interval</td>
</tr>
<tr>
<td>Career Development</td>
<td>Unpaid/volunteer experiences participated</td>
<td>Yes</td>
<td>Categorical; Dichotomous (Check all that apply with several selections)</td>
</tr>
<tr>
<td>Campus Membership</td>
<td>Social activities participated in</td>
<td>Yes</td>
<td>Categorical; Dichotomous (Check all that apply with several selections)</td>
</tr>
</tbody>
</table>

Variables. The secondary analyses of the TPSID Florida cohort 1 data began with descriptive statistics on the following variables: age, gender, race, ethnicity, disability type, high school inclusion background, employment history, prior college enrollment, number of years to complete program, and whether the students were still served through the local education agency/receiving Free Appropriate Public Education (FAPE) through a dual enrollment program. This secondary analyses also served to determine whether there was a correlational relationship between descriptive variables as well as potential predictor variables with the outcome variable of a paid job upon exit of the program. There were two options for outcome variables: 1) program exit with paid, competitive employment or 2) program exit without paid, competitive employment. Correlational analyzes were conducted to examine the relationships between the post-school outcome of employment (dependent variable) and each of the three categories of
program components (independent variables) including the number of inclusive courses taken, unpaid/volunteering experiences, and social activity participation. Binary logistic regression was then used to model the three independent variables to identify which, if any, of these program components could predict employment status upon program completion. All analyses were run using the most recent student record (i.e., the final year a student was in program). As the statistical analyses increased in complexity, the number of variables decreased in order to focus on specific relationships among potential predictor variables.

**Pragmatism’s Alignment with Study Approach and Method**

This study incorporates pragmatism as the theoretical framework as it guides both thinking about the context in theory and also allows for the ability to test the theory in practice. Noddings (2005) describes how pragmatism posits theory and practice as equally important. Further, Fitch (2010) describes progressive pragmatism as “a form of praxis: a transformative union of theory and practice” (p. 24). The blending of theory and practice is in alignment with the researcher’s values and purposes for this secondary analysis. Pragmatism was also chosen because it provided space for the research to reflect upon the reasons for conducting this research (the “why”), not just how the research was conducted (Morgan, 2014).

As someone deeply invested both personally and professionally within the inclusive higher education field, the researcher is concerned with the consequences of establishing knowledge in this area and recognizes that the researcher’s underlying philosophies and values will impact the study (Feilzer, 2010). Pragmatism is also associated with ethical questions, including how research may benefit or harm, which is considered throughout this study and especially in the closing chapter. Early contributors to the pragmatic theory of knowledge, contend that the “consequences in establishing knowledge” should be at the center of this theory
The purpose of this study is aligned with pragmatism as it requires moving past the positivist, surface-level results and reflecting on the findings as related to theory, existing knowledge and consequences of the research (Feilzer, 2010). Fitch (2010) explains that “pragmatism insists on the inseparability of facts and values and the centrality of action in the social world” (p. 24). This view of pragmatism is consistent with the researcher’s intent from this study, which is to find out what promotes successful employment and help implement those practices, as well as find out what else needs to be learned to support students with intellectual disabilities to find competitive employment. Furthermore, the evolution of predictors of post-school success, whether employment or other outcomes, along with the existing field-specific frameworks were investigated throughout the literature review in this study to uncover the foundation of this knowledge. This strategy is aligned with pragmatism, which calls for “careful attention” to the foundation of knowledge in order to provide “truth” (Noddings, 2005, p. 58).

While pragmatism is commonly associated with mixed methods research, it is not exclusive to that genre, and pragmatism as a research paradigm can be used with a variety of research methods, particularly those related to social research (Morgan, 2014). Pragmatism is an alternative to dichotomous positivism/post-positivism and constructivism debate and facilitates a focus on the problem to be examined as well as the consequences of the research (Feilzer, 2010). Pragmatism offers this study flexibility and utility, which then calls for reflexivity in this practice (Feilzer, 2010). Using a pragmatic paradigm to analyze the data through the secondary analyses is appropriate since pragmatism “is a commitment to uncertainty” (Feizler, 2010, p. 14). The limitations of working with secondary data are discussed later in this chapter, but the use of pragmatism reinforces that research is relative. Since pragmatism can be viewed “as a method that is modeled on scientific practice,” this quantitative study and the systemic process used
within the secondary analyses are supported through pragmatism (Noddings, 2005, p. 57). In particular, the researcher went through the scientific processes of problem identification, hypothesis generation and testing the hypotheses, while also incorporating the pragmatic aspect of anticipating consequences of the proposed course of action and reflecting on the consequences of the results (Noddings, 2005).

**Rationale for Method Selection: Secondary Analyses**

Since quantitative data are available related to the student-level outcomes of exiters of inclusive postsecondary education programs, these data were analyzed to add to the knowledge base of the field with regard to program components that lead to employment, which is the first purpose of the study. This secondary analyses of the National Coordinating Center data for the three programs in Florida enables the researcher to “capitalize on the vast amount of data already out there” specific to inclusive higher education (O’Leary, 2014, p. 246). Secondary analyses also reduce resources necessary to conduct primary research (O’Leary, 2014). Within the field of secondary transition and employment of people with disabilities, secondary analyses are widely utilized, especially with longitudinal datasets such as the NLTS2 or the Rehabilitation Services Administration (RSA) databases. Hicks and Knollman (2015) contend that secondary analyses of longitudinal data in the field “promise to enhance the quality of descriptive studies in special education research” (p. 183). This study also adheres to field-specific suggestions by Test et al. (2009) who advise that secondary analyses, specifically of the NLTS2, should disaggregate data by disability, study relationships between variables to predict transition outcomes, and determine whether the predictors are upheld through the transition process.

The philosophical stance of the study, pragmatism, aligns nicely with secondary analyses since it is “flexible and open to the emergence of unexpected data” (Feilzer, 2010, p. 14). A linear research process is rarely possible, especially when working with secondary data (Clarke
Pragmatism is well aligned with secondary analyses since it equally places value on both theory and practice (Noddings, 2005). This dual value system is evident through the design of this study since theory guided the variable selections and analyses run to examine practice. Reflexivity is not typically a part of the quantitative tradition; however, the researcher felt strongly about being reflexive with respect to the dataset, the analyses, and the consequences of the results. As such, pragmatism offers this study both flexibility and utility, which then calls for reflexivity in this practice (Feilzer, 2010).

Managing limitations of secondary analyses. The nature of conducting a secondary analyses poses some general limitations that were experienced in this study. An initial limitation is that the data are situational and were collected for some other purpose; thus, the specific information sought by the researcher was not easily extracted (Johnston, 2014; O’Leary, 2014). For example, this study sought to investigate program components that facilitate post-school employment; however, the data contained in the dataset were based on student-level reporting and did not address the full range of programmatic or pedagogical components that the researcher initially sought to study. Another common limitation of secondary analyses of existing data is that the researcher did not participate in the data collection process and therefore was not aware of the data collection procedures (Johnston, 2014). The researcher did take steps to remedy this through contacting the original researchers, reviewing the student data collection tool produced by the National Coordinating Center, and reviewing related National Coordinating Center publications and reports based on the national dataset from which this study’s sample was extracted. In addition, the researcher has the unique perspective of how the data was entered from a programmatic standpoint, as she was the data collection and entry person for one program in Florida.
Another limitation of this study is the non-generalizability due to the small sample size consisting of student-level data from one state (N=210). The goal of this research was not to generalize to all postsecondary programs. Instead, this study identified program components that could enhance post-school outcomes that can be used by other programs seeking to develop programs or enhance their students’ opportunities to obtain gainful employment.

The researcher’s positionality within the research context has been noted in earlier sections of the study. To recap, the researcher has served in many capacities affiliated at the university and within one of the programs, including mentor, coordinator, and director, and even with the data collection to the National Coordinating Center database where the dataset was pulled. The relationship was not likely to impact the secondary analyses of the database because not all of the student data included in the study was from the program where the researcher is employed.

This study focused only on program components that could be gleaned from the existing dataset which was focused on student-level data. While descriptive data about student characteristics and experiences that occurred prior to their enrollment in a postsecondary program or outside of the postsecondary program was included for context, this was not the focus of the study. Further, while inclusive postsecondary programs have been preliminarily linked with many positive outcomes (Butler et al., 2016), the only post-school outcome examined in this study is employment.

**Data Collection**

Quantitative data was obtained from the National Coordinating Center database for TPSID programs from the first cohort (2010-2015) for the three program partners in Florida: University of North Florida, Lynn University/Florida Atlantic University, and University of South Florida St. Petersburg. Initial descriptive statistical analyses were run to provide further
context on the sample. The descriptive statistics included variables related to students’ previous experiences, such as previous paid employment and high school diploma type. A secondary analyses of student data from this database was conducted to investigate a bivariate correlation between employment status upon exit and program components, such as academic access (number of inclusive courses), career development (unpaid/volunteer experiences), and campus membership (social activity participation). Binomial logistic regression was conducted to analyze the relationship between the program components (independent variables) and the post-school outcome of employment (dependent variable). This statistical analyses was chosen for its ability to produce a model that describes the relationship between a dependent variable and predictor variables (Gall et al., 2007). These variables include student-level data recorded in the database with regard to academic access, career development, and campus membership, which are aligned with the Think College Cornerstones of Practice. Additionally, examination of these variables alongside employment outcomes aligns with the overlapping predictors highlighted in the first chapter (Mazzotti et al., 2016; Southward & Kyzar, 2017), which includes high school completion, prior paid employment, vocational instruction/education, self-determination, and parent/family expectations. However, there was no evidence related to all of the predictors included in the dataset. For example, while self-determination is the fourth Think College Cornerstone and one of the predictors overlapped between the secondary transition and employment related predictors, it was not included in this dataset and thus could not be included in this analyses. The results from the first research question were then used to address the second research question. In particular, the program component variable that was found to best predict paid employment upon exit was compared to the two predictor lists (Table 1) to determine whether the correlations drawn were consistent with existing predictor lists.
Sample

Quantitative data were obtained from the National Coordinating Center database for TPSID programs from the first cohort (2010-2015) and analyzed through a secondary analyses of student data. The dataset included student data from three program partners from the first cohort: University of North Florida, Florida Atlantic University, and University of South Florida St. Petersburg. There were 210 student records within the dataset and 94 unique student records. The 210 records included duplicated student records for students who attended for more than one year, which is expected. Of the unduplicated student records (N=94), 64 of the students exited at some point in the dataset and thus had outcome data available. In other words, the remaining 30 students were still enrolled in the program and had not yet exited; thus, they were not included in the inferential statistical analyses because they did not have outcome data upon which the dependent variable is based. As such, the majority of the statistical analyses were run based on unduplicated student records with outcome data (N=64) to examine the programmatic features of their experience within the program and the outcome of employment upon exit.

This data spanned all students participating in the three programs over the five years, from 2010-2015. The dataset did not contain any personally identifiable information and no names were collected as each student record was assigned a number upon onset of the data collection. The secure online database was developed in 2011 using Quickbase software and was maintained by the National Coordinating Center. A coordinator or director from each site was required to submit program and student-level data annually within the system.

Student-level data was collected annually, including demographic characteristics and detailed information about student participation and experiences while enrolled in the program. Examples of demographic characteristics collected in the initial student core records include age,
race and ethnicity, disability type, gender, high school educational setting and curriculum, as well as type of high school diploma, paid employment, and college experience prior to program entrance. Annual student record updates included specific program participation information in the following categories: academic status, coursework and enrollment, financing education, career development activities, employment, social participation, and living situation. For example, under the coursework and enrollments category, information was available with regard to the number of courses taken, whether the courses were academically inclusive or separate, and whether the students took the courses for credit, non-credit or through continuing education.

Information about students’ post-school outcomes was collected in the year the student exited the program and included exiting credential, living situation, benefits received, and employment status.

**Timeline.** The TPSID National Coordinating Center at the University of Boston-Massachusetts shared the Florida dataset with the researcher electronically. The secondary analyses of the Florida TPSID cohort one data occurred throughout May and September 2017. Using SPSS software, the researcher identified variables within the dataset that related directly to the research question (i.e., program components) and proceeded to clean the dataset to reduce extraneous variables and clarify the variable types to be analyzed. After identifying the types of variables within the dataset, the researcher refined the data analyses plan to account for categorical and continuous variables, as well as for combinations of the two. The researcher also investigated logistic regression further to ensure it was a fit to produce the data required to answer the research questions. For example, the initial dataset featured over 300 separate variable columns, so the researcher contacted the data manager from the National Coordinating Center to clarify some of the variables. The researcher reduced the number of variables within
the dataset to one third of its original size in order to focus on demographic information and variables that a program could alter (e.g., academic access through inclusive coursework, career development through unpaid and/or volunteer experiences, campus membership through social activity engagement).

**Instrumentation**

Several recommendations for researchers from Cobb and colleagues (2013) were addressed throughout this study based on the data available from the existent dataset. For example, Cobb and colleagues’ (2013) recommendation related to accounting for employment while in school is a question covered in the dataset. Another recommendation is to identify disability type, was controlled for since all of the student records and participants were attending programs designed for students with intellectual disabilities. However, descriptive statistics were run to identify the frequency of reported disability type. The premise of the research study serves to address another recommendation which urges researchers to measure post-school outcomes, including employment; programmatic aspects such as academic access, career development and campus membership; and how they may contribute to positive post-school outcome of employment. A unique consideration to this study is related to the population represented from these student records. People with intellectual disability can be categorized as a marginalized population, thus reinforcing the importance of the study since this population has often been excluded from educational research (Cohen, Manion, & Morrison, 2011).

**Validity**

Internal and external validity was addressed in several ways. Internal validity was controlled through instrumentation considerations and variable descriptions, which were detailed earlier in the chapter. For example, running descriptive and correlational analyses helps to further provide context of other possible relationships among variables. Bias reduction was
achieved through the self-disclosure of bias from the researcher as described in earlier in the chapter. Further, the possibility of selection bias was alleviated by clearly defining inclusion and exclusion criteria. The researcher used all data provided by the National Coordinating Center and examined the latest record available in doing correlational and logistic regression analyses. The researcher identified assumptions in order to bring forward the recognition of biases which may also assist in identifying potential categories for exploration (O’Leary, 2014). This self-disclosure and reflexivity are aligned with the pragmatic paradigm, which holds that validity is understood as “the relationship between theory and method” (Feilzer, 2010, p. 13).

External validity is controlled by detailing independent variables clearly and using caution not to generalize findings beyond the scope of the sample. Another aspect of external validity is that the researcher was also “faithful” to the binomial logistic regression assumptions (Cohen et al., 2011). Specifically, the variables within this model meet the first four assumptions for binomial logistic regression, which are related to the study design. Specifically, the dependent variable is measured on a dichotomous scale (assumption #1), there are one or more independent variables that are either continuous or categorical (assumption #2), and each observation is independent (assumption #3) since the data being used is outcome data for non-duplicated students. Further, there are more than the recommended 15 cases per independent variable (assumption #4). The Box-Tidwell approach was used to ensure that there is a linear relationship between continuous independent variables and the logit transformation of the dependent variable (assumption #5) since the number of inclusive enrollments was a continuous interval variable. The interaction term was not statistically significant; thus, there is a linear relationship between the continuous independent variable and the logit transformation of the dependent variable. In order to verify that the data does not show multicollinearity (assumption
#6), an inspection Variance Inflation Factor (VIF) values were conducted and all VIFs were under 3, which indicates there was no multicollinearity between variables. The final assumption for binomial logistic regression is that there are no significant outliers within the dataset (assumption #7), which was tested for in SPSS during the binomial logistic regression procedure by selecting the “Casewise listing of residuals” option. Using the casewise diagnostics option in SPSS, the cases with studentized residuals (ZResid) had values less than 2.5; therefore, there were no outliers detected.

**Reliability**

Concern for process was central to ensuring that the researcher was able to obtain this important information from the secondary analyses and replicability through the care to record procedures; thus, the researcher also included the status position of the researcher, methods of data collection, and an explicit analyses (Cohen et al., 2011). Consistency in results was demonstrated by utilizing two analyses (correlation and binomial logistic regression) to describe the relationship between independent variables and dependent variable. Further, correlation coefficients were analyzed during the correlational analyses. The NTACT Quality Indicator Checklist for Correlational Studies (2015) was utilized in the development of the analyses procedure.

**Credibility**

Although credibility is primarily addressed in qualitative research, the researcher followed several of O’Leary’s (2014) strategies for ensuring credibility throughout a secondary analyses. The researcher defined and reviewed the methods utilized in this study by using a range of sources produced from the initial dataset, including national reports and other articles and dissertations using sections of the national dataset of which the state dataset was derived.
Further, the researcher sought advice from insiders and original researchers at the National Coordinating Center with regard to study design. In addition, the researcher was part of the data reporting process for her particular institution of higher education and was therefore a part of the original data collection further adding to the credibility of the research.

**Analyses Methods**

This section will describe the data analyses procedures for both research questions. For the secondary analyses of the existing dataset, the data were arranged in SPSS, and descriptive, correlational, and logistic regression analyses were conducted to describe the relationship between students’ experiences within the inclusive postsecondary programs and employment upon exit.

**Descriptive Analyses**

Initial descriptive statistics were run on student demographic data to explore the demographic information of the sample and experiences of the students in the dataset. For example, data were reported on demographic information including students’ age, race, ethnicity, and gender. Further, students’ experiences prior to college were explored including the type of high school diploma received, previous paid employment or previous college attendance.

The type of accommodations received and who provided those accommodations was also examined through descriptive statistics. The selections for how accommodations were provided included disability support office (DSO), TPSID program personnel, both or neither. Further, the types of accommodations were examined for frequency and included the following categories of accommodations: information technology, assistive technology accommodations, enrollment accommodations, academic accommodations, and academic supports. Another academic aspect related to course enrollment was whether students were able to access all of the courses they
wanted to take.

Descriptive statistics for the variables related to students’ experiences during their inclusive college experience and that were also later examined through correlational and logistic regression were included to provide an overall understanding of frequency and percentage of these variables. For example, for academic access, the number of inclusive courses taken in a students’ last annual report was included in this analyses. Participation in some form of unpaid career development within a given year, such as volunteering and service learning, unpaid work experiences, or unpaid internships (for and not for credit) was also examined for frequency. Frequency data was reported for student participation in a number of social activities, including participating in the Greek system (fraternity/sorority), attending other social activities, attending or participating in sporting events, going out with personal friends, attending organized events on campus alone or with friends, joining clubs or community or student organizations, and becoming a part of Best Buddies (Peer friendship organization). The descriptive statistics facilitated a better understanding of the sample characteristics and provided context to analyze the results of further analyses.

**Correlational Analyses**

Correlational analyses enable the study of complex variables that occur in real-life settings and that are not easily studied through other methods such as experimentation (Isaac & Michael, 1997). While correlation does not indicate causation, it provides the strongest nonexperimental support towards evidence of best practices’ influence on student outcomes (Papay, 2011). Bivariate correlations were run as a next step to further drill down to specific variables and the degree of relationship between the variables and relation to the outcome (dependent variable). The statistical analyses increased in complexity, focusing on an
increasingly limited number of variables in order to describe relationships among potential predictor variables available in the dataset and as guided by the post-school success predictor framework. Correlational analyses using crosstabs were conducted to investigate the relationship between each programmatic aspect (independent variables) and employment upon exit (dependent/outcome variable). Individual correlations using crosstabs were run for each independent variable (14 total). A bivariate correlational analyses was run for the academic access variable because the independent variable, number of inclusive courses taken in last year of program, was continuous. The Pearson Correlation Coefficient was used to describe the strength of the correlation between the two variables since the dependent variable is discrete, even though the number of inclusive courses is continuous. The significance levels were set at .01 and were investigated for each crosstab analyses. The independent variables for career development activities and campus membership both were categorical and were “check all that apply” in the dataset. As such, correlations were run for employment status upon exit (dependent variable) and each selection possibility. For example, for the career development category, the independent variable of participation in unpaid/volunteer experiences was broken into the following five specific activities: service learning opportunities, unpaid internships (for-credit), volunteering and/or community service, unpaid individual work training sites, and other unpaid/volunteer experiences. Correlational methodology has been used in other studies that have investigated program variables as predictors of post-school outcomes using secondary analyses and within the field of secondary transition (Papay, 2011). Further, it was recognized that correlation is not causation and that not all relationships are linear.

**Logistic Regression**

In order to determine the effects of all of the independent variables on the
dependent/outcome variable (employed upon program exit or not employed upon exit) within one model, the researcher used binomial logistic regression. Specific variables, or predictors, that were investigated included the following: academic access (number of inclusive course enrollments), career development (participation in specific types of unpaid/volunteer experiences), and campus membership (participation in specific types of social activities).

Logistic regression enables prediction of the relationship, including the weight of the relationship between two or more explanatory variables and an explained variable (Cohen et al., 2011). Since the dependent variable is categorical (dichotomous), logistic regression was utilized. Logistic regression was appropriate for this study since the researcher sought the prediction of dichotomous outcomes because the question is whether a specific variable or group of variables can predict post-school employment – yes or no (Gall et al., 2007). Most of the independent variables were categorical and one was continuous. Logistic regression has been used in a number of predictive transition-related studies (Feldman-Sparber, 2015; Papay, 2011).

Binomial logistic regression was utilized to develop a model to examine a number of potential predictors on the outcome variable of paid employment upon program exit. Binomial logistic regression was chosen since it can be used to develop a model that predicts probability when the dependent variable is dichotomous and based on one or more independent variables that are either continuous or categorical, which is fitting for the variables in this data that were included in the predictor model (Laerd Statistics, n.d.). An odds ratio is produced from a logistic regression model, which provides a measure of the effect of a predictor on the likelihood that an outcome will occur including whether a predictor increases or decreases the likelihood of an outcome (Feldman-Sparber, 2015). If an odds ratio is greater than 1.0, there is an increased chance that an event will occur. Similarly, if an odds ratio is less than 1.0, there is a decreased
chance that an event will occur. Odds ratios have been used in recent studies to measure the
relationship between predictor variables and outcomes in secondary transition (Baer et al., 2011;

Alignment of Results with Existing Predictor Sets

The results of the predictive logistic regression model indicated which of the examined
program components are predictive or most closely correlated with post-school employment.
Since the variables selected were based on a crosswalk across two predictor sets and the
Cornerstones of Practice from ThinkCollege, the final step of this analyses involves further
investigating the alignment of the predictors identified through this logistic regression model and
the established predictors found in both the in-school predictors of post-school success (Mazzotti
et al., 2016) and predictors of competitive employment for students with intellectual and/or
developmental disabilities (Southward & Kyzar, 2017). Specifically, this analyses describes how
the predictor identified through this study is aligned within each of the established predictor sets.

Summary

The present study conducted descriptive, correlational, and logistic regression analyses
on student-level data to identify relationships among three categories of independent variables on
the dependent variable of employment upon exit. This chapter also featured an overview of the
sample, timeline, and analyses methods as well as a rationale for the use of secondary analyses
and the chosen conceptual and theoretical frameworks for variable selection. The following
chapter will present the results of the analyses.
Chapter Four

Results & Analyses

The purpose of this study was to add to the emergent knowledge base on inclusive higher education by gaining insight into the complex phenomena that contribute to the effectiveness of specific inclusive higher education program components that produce positive post-school employment of people with intellectual disabilities. Program components include the content domains that guide programs of study within inclusive higher education programs, such as inclusive coursework, unpaid career development experiences, and on campus social activity participation. Through this study, the following question was addressed: Which components of the postsecondary education programs for students with intellectual disability contribute to the successful transition outcome of employment? The specific research questions addressed were:

Research Question 1: Based on a secondary analyses of data collected on students from three 2010-2015 funded TTPSID programs in Florida, which program components are correlated with the post-school outcome of paid, competitive employment?

Research Question 2: How do the program components that are correlated with post-school employment align with the established in-school predictors of post-school success (Mazzotti et al., 2016) and predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017)?

Descriptive statistics were utilized to describe initial demographic and sample characteristics, followed by correlational analyses of specific program components with an outcome variable and then a logistic regression model to describe the relationship of several program factors on the end outcome variable of employment upon exit. This chapter will first present the demographic and descriptive results as they relate to both research questions.
addressed by this study. The inferential statistical analyses section will follow to address the first research question. The results from the first research question inform the analyses that answer the second research question.

**Sample Characteristics**

While there were 210 student records contained within the dataset, there were data available for 94 unique students with many students having more than one annual record. However, since the dependent variable was based on an outcome, there were only 64 unique student records that were used for these analyses because 64 of the 94 unique students had exited the program and had an outcome (employed or not). Each of the correlations included 64 total cases; thirty (30) were analyzed as “missing” since those students were still enrolled or returning next year and thus did not have outcome data. The sample featured more males (58%) than females (42%), which aligns with trends in the population of people with intellectual disability, but runs counter to the general college population, where females are in the majority (DiPrete & Buchmann, 2013). Students’ ages were reported each year, and the latest records (2014-2015) were utilized for the majority of the descriptive analyses. As of October 1, 2014, 22.3% of students were 22 years old, followed by 16.0% age 24 and 14.9% who were 21 years old. The ages ranged between 19 and 28 years old. See Table 5 for additional age-related details. Seventy-four percent (74%) of students were white, 18% were black/African American, 4% of students’ race was unknown, 3% were Asian, and 1% was Native Hawaiian or other Pacific Islander (see Table 6). Most students (92%) were not of Hispanic/Latino decent. As expected, the most prevalent disability type was intellectual disability (51%) with developmental delay listed as the next most prevalent at 19% (Table 7).
Figure 3. Summary of Sample Size and Process to Determine Student Records for Inclusion in Study

<table>
<thead>
<tr>
<th># Student Records in Dataset</th>
<th># Unique Student Records</th>
<th># Unique Student Records with Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>94</td>
<td>64</td>
</tr>
</tbody>
</table>
Table 5
Sample Demographics: Student Age as of October 1, 2014

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>3%</td>
</tr>
<tr>
<td>20</td>
<td>10.6%</td>
</tr>
<tr>
<td>21</td>
<td>14.9%</td>
</tr>
<tr>
<td>22</td>
<td>22.3%</td>
</tr>
<tr>
<td>23</td>
<td>10.6%</td>
</tr>
<tr>
<td>24</td>
<td>16.0%</td>
</tr>
<tr>
<td>25</td>
<td>11.7%</td>
</tr>
<tr>
<td>26</td>
<td>3.2%</td>
</tr>
<tr>
<td>27</td>
<td>5.3%</td>
</tr>
<tr>
<td>28</td>
<td>2.1%</td>
</tr>
</tbody>
</table>
Table 6

Sample Demographics: Race

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>0%</td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>18%</td>
</tr>
<tr>
<td>Asian</td>
<td>1%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>74%</td>
</tr>
<tr>
<td>Unknown</td>
<td>4%</td>
</tr>
<tr>
<td>White</td>
<td>0%</td>
</tr>
</tbody>
</table>
Some predictors of post-school success related to students’ experience prior to postsecondary education. The dataset used for this study provided some information about students’ experiences prior to entering the TPSID program. While descriptive statistics were run on these variables, the variables were not included in the any further analyses since they are not factors that programs can change to influence students’ post-school outcomes, which is the focus of this study. However, this information is important to consider related to the background of the sample. For example, about half of students (48%) spent half of their time in general education settings and half of their time in special education settings during high school. About a quarter of
students (26%) were partially included in general education curriculum with the majority of their classes in special education. Only 15% were fully included in the general education curriculum taking general education courses. Twenty-six (26%) of students were employed for pay at or above minimum wage prior to entering the TPSID program. However, almost all students (99%) did not take college courses prior to enrolling in the TPSID program, which underlines the critical needs for inclusive postsecondary programs. About half of the students were dually enrolled (47%), receiving services through a public school system to attend college. Two of the three programs were dual enrollment partnerships between the institution of higher education and a local school district.

**Descriptive Statistical Analyses**

The number of inclusive courses taken by students is reported annually. It was alarming to find that 38.3% of students did not take any inclusive courses in their last year of a program that they were enrolled in the TPSID program. Additional findings showed that 21.3% of students were enrolled in one inclusive course and 20.2% were enrolled in two inclusive courses in their last year of their programs. On a positive note, 17% of students were enrolled in four courses in their last year of their program, which is similar to a traditional student’s course load. The majority of accommodations that students in the programs received were provided by the TPSID program; however, some students received accommodations from the disability support office (DSO) just as other students with disabilities would. For example, students received the following accommodations from the DSO: information technology (28.6%), assistive technology accommodations (27.5%), enrollment accommodations (18.7%), academic accommodations (15.9%), and academic supports (15.0%). Most students (93.4%) were able to access all of the courses they wanted to take.

Almost half of students (45%) participated in some form of unpaid career development
upon exit, such as volunteering and service learning, unpaid work experiences, or unpaid internships (not for credit). Volunteering and/or community service was the most frequently cited unpaid career development activity (29.8%) followed by unpaid internships (not for credit) (22.3%). No students were participating in unpaid internships that were for-credit at their time of program exit. During their final year in the program, more than half (55.3%) held at least one paid job that year. Fortunately, more than half of students (62.5%) had a paid job within 90 days of exit of the inclusive postsecondary program which was the dependent variable for this study. This more than doubles the average employment rate of individuals with intellectual disabilities in general (Siperstein, Heyman, & Stokes, 2014).

Frequency data was reported for student participation in a number of social activities. Students were reported as participating in the Greek system (fraternity/sorority), attending other social activities, and attending or participating in sporting events most frequently. Other aspects of social activity participation included going out with personal friends, attending organized events on campus alone or with friends, joining clubs or community/student organizations, and being a part of Best Buddies (Peer friendship organization).

**Inferential Statistical Analyses**

Correlational analyses were conducted to examine preliminary relationships between specific independent variables and the outcome variable of employment upon exit. For the first research question, correlational analyses of the number of inclusive courses (academic access), unpaid/volunteer experiences (career development), and participation in social activities (campus membership) were separately correlated with the outcome variable of employment status upon exit. Following the correlational analyses, all 14 of the independent variables were factored into a logistic regression model with the outcome variable to examine whether there were predictive elements when controlling for each independent variable.
Correlational Analyses

In order to address the first research question concerning the identification of program components that are correlated with the post-school outcome of paid, competitive employment, correlational analyses were run to examine relationships between having a paid job within 90 days of program exit and different elements of academic access, career development and campus membership activities. A bivariate correlational analyses was run for the academic access variable because the independent variable, number of inclusive courses taken in last year of program, was continuous. The Pearson Correlation Coefficient was used to describe the strength of the correlation between the two variables since the dependent variable is discrete, even though the number of inclusive courses is continuous. A crosstab correlation was also run for the number of inclusive courses taken with employment upon exit to further investigate the relationship between the numbers of courses taken. Crosstab correlations were conducted for the career development (unpaid/volunteer experiences) and campus membership (participation in social activities) and analyzed using the Phi Coefficient since the variables were dichotomous. Phi indicates the degree of association between two binary variables. Each of the correlations included 64 total cases. The results from the correlational analyses are summarized by variable category below.

Academic Access

The Pearson Correlation coefficient was used to examine the relationship between having a paid job at or within 90 days of program exit and the number of inclusive courses taken by students. The Pearson Correlation (.386) indicates a moderate positive relationship between the two variables. Specifically, the positive correlation between the variables means that as the number of inclusive course enrollments a student takes increases, there is an increase in the
likelihood of paid employment upon exit for that student. The p-value is less than 0.05 (0), which means that the correlation coefficients are significant (Table 8).

Table 8

Results of Pearson Correlation Between Inclusive Course Enrollment and Paid Employment Upon Exit

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Did this student have a paid job within 90 days of exiting the program?</th>
<th># of Enrollments</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Enrollments</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>1</td>
<td>.386</td>
<td>.002</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

The linearity and significance of the relationship between the two variables led the researcher to further investigate whether there were any further correlations between specific numbers of course enrollments in a given year and paid employment upon exit. As such, crosstab correlations were run for the number of enrollments and whether students had paid employment upon exit (Table 9). The cross tab correlations found that, during their last year of enrollment, 16 students were enrolled in one inclusive course (19.1% of the total sample); however, of those with one course enrollment, 14 students, or 87.5% of the students who took one inclusive course, also had a paid job within 90 days of program exit. Interestingly, 16 students took two courses and 16 students took four courses in their last year of enrollment. For students who took two or
four inclusive courses, the exact same results were present: seven (7) (43.8% of students who took two or four inclusive courses) who were enrolled in two or four inclusive courses also had a paid job within 90 days of program exit. Of the two students who were enrolled in three inclusive courses, only one of the two students (50%) had a paid job within 90 days of program exit. Interestingly, 11 students, or 84.6% of the 13 students who did not take an inclusive course in their last year in a program, exited with paid employment within 90 days. In total, 51 (79.6%) students were enrolled in at least one inclusive course in the last year of their program. Of those 51 students who were enrolled in at least one inclusive course, more than half of the students (29 total; 56.9%) exited with paid employment (see table 10). The Phi Coefficient (.461) indicates a weak positive correlation, which confirms the Pearson Coefficient earlier.

Table 9

*Results of Cross Tabulations between the Number of Inclusive Course Enrollments and Paid Employment Upon Exit*

<table>
<thead>
<tr>
<th>Did this student have a paid job within 90 days of exiting the program?</th>
<th># of Enrollments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Did this student have a paid job within 90 days of exiting the program?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
</tr>
</tbody>
</table>
### Table 10

**Course Enrollment and Employment Results Reconfigured**

<table>
<thead>
<tr>
<th># of Inclusive Courses</th>
<th># of Students (% of Sample)</th>
<th># (%) of Students Employed Upon Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>13 (20.3%)</td>
<td>11 (17.2%)</td>
</tr>
<tr>
<td>1</td>
<td>16 (25%)</td>
<td>14 (21.9%)</td>
</tr>
<tr>
<td>2</td>
<td>16 (25%)_</td>
<td>7 (10.9%)_</td>
</tr>
<tr>
<td>3</td>
<td>2 (3.1%)</td>
<td>1 (1.6%)</td>
</tr>
<tr>
<td>4</td>
<td>16 (25%)</td>
<td>7 (10.9%)_</td>
</tr>
<tr>
<td>5</td>
<td>1 (1.6%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>64</strong></td>
<td><strong>40 (62.5%)</strong></td>
</tr>
</tbody>
</table>

### Table 11

**Results of the Phi Coefficient between Inclusive course enrollment and paid employment upon exit**

<table>
<thead>
<tr>
<th>Symmetric Measures</th>
<th>Value</th>
<th>Approximate Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal by Nominal Phi</td>
<td>.461</td>
<td>.019</td>
</tr>
<tr>
<td>Cramer's V</td>
<td>.461</td>
<td>.019</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>
Career Development

Crosstab correlations were conducted to examine the relationship between unpaid/volunteer experiences and obtaining paid employment upon program exit. Program personnel were asked to indicate the types of career development opportunities students were engaging in related to unpaid/volunteer experiences on an annual basis using a “check all that apply” format for five types of activities, including an “other” option. Respondents could select more than one option. The five types of unpaid/volunteer experiences were: service learning opportunities, unpaid internships (for-credit), volunteering and/or community service, unpaid individual work training sites, and other unpaid/volunteer experience (Table 12). Of the students who exited with paid employment, seven (7) out of 40 (17.5%) were also engaged in service learning opportunities in their last year of the program. Of the 13 students who participated in service learning opportunities, slightly more than half (53.8%) exited with paid employment. Phi Coefficient (-0.090) indicates little to no association between service learning opportunities and paid employment upon exit. There were no students engaged in unpaid internships (for-credit) or other unpaid/volunteer experiences; therefore, a relationship between this variable with paid employment upon exit could not be computed. Sixteen (16) students (40%) out of 40 were engaged in volunteering and/or community service in their last year of the program, and more than half (57.1%) exited with paid employment (see Table 13). However, the Phi Coefficient indicates little to no association between the two binary variables. 11 students (27.5%) engaged in unpaid individual work training sites in their last year of the program. Of the 11 students who participated in unpaid individual work training sites, more than half (64.7%) exited with paid employment. Similar to the other variables, the Phi Coefficient (0.027) demonstrates there is little to no association between the variables. Another option respondents could select for each
student in their program on an annual basis was, “did not participate in unpaid/volunteer experiences.” Three (3) students did not participate in any unpaid/volunteer experiences in their last year (4.7%). Of those three (3) students who did not participate in any unpaid/volunteer experiences in their last year of the program, all three (3) students (100%) did have a paid job within 90 days of exiting the program. As expected, the Phi Coefficient (0.172) reveals that there is little to no association between the two variables.
Table 12

**Summary of Cross Tabulations and Significance Results for Dependent Variable of Paid Employment Upon Exit with all Career Development Options**

<table>
<thead>
<tr>
<th>Cross tabulations</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did this student have a paid job within 90 days of exiting the program?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service learning opportunities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>33</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>51</td>
<td>64</td>
</tr>
<tr>
<td>Unpaid internships (not for-credit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>43</td>
<td>64</td>
</tr>
<tr>
<td>Volunteering and/or community service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>36</td>
<td>64</td>
</tr>
<tr>
<td>Unpaid individual work training sites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>29</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>47</td>
<td>64</td>
</tr>
</tbody>
</table>

* No students participated in unpaid internships (for-credit) or the “other” category.
Table 13

Career Development Activity Participation and Employment Results Reconfigured

<table>
<thead>
<tr>
<th>Type of Career Development Activity</th>
<th># of Students (% of Sample)</th>
<th># (%) of Students Employed Upon Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service learning opportunities</td>
<td>13 (16.5%)</td>
<td>7 (53.8%)</td>
</tr>
<tr>
<td>Unpaid internships (not for-credit)</td>
<td>21 (26.6%)</td>
<td>10 (47.6%)</td>
</tr>
<tr>
<td>Volunteering and/or community service</td>
<td>28 (35.4%)</td>
<td>16 (57.1%)</td>
</tr>
<tr>
<td>Unpaid individual work training sites</td>
<td>17 (21.6%)</td>
<td>11 (64.7%)</td>
</tr>
<tr>
<td>Unpaid internships (for-credit)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td></td>
</tr>
</tbody>
</table>

Campus Membership

Similar to the career development questions regarding unpaid/volunteer experiences, campus members were examined through social activity participation which was reported as “check all that apply.” There were seven categories where frequencies were reported, as follows: going out with personal friends, attending organized event on campus, attending or participating in sporting events, Greek system (fraternity/sorority), joining clubs or community or student organizations, engaging in Best Buddies (Peer friendship organization), or other social activity. Bivariate correlation was utilized since both variables were dichotomous. Crosstab correlations were run for each category with the dependent variable of paid employment upon exit (Table 9). All but one student (97.5%) who had paid employment upon exit were also engaged in going out with personal friends in their last year of the program. Of those engaged in going out...
with personal friends during their last year of the program, more than half 62.9% had paid employment upon exit. The Phi Coefficient (.046) reveals there is little to no association. Out of 40 students (82.5%) who had with paid employment upon exit, 33 were also engaged in attending organized event(s) on campus in their last year of the program. Of those engaged in attending organized event(s) on campus during their last year of the program (56 students), more than half (33 students; 58.9%) had paid employment upon exit; however; the Phi Coefficient (-0.195) shows little to no association. Thirty one (31) students (77.5%) who had paid employment upon exit were also engaged in attending or participate in sporting events in their last year of the program. Of those engaged in attending or participating in sporting events during their last year of the program, more than half (59.6%) had paid employment upon exit. The significance level (-0.124) reveals little to no association. Only 1 student (2.5%) who had paid employment upon exit was also engaged with the Greek system (fraternity/sorority) in their last year of the program. Of the two students engaged with the Greek system (fraternity/sorority) during their last year of the program, half (50%) had paid employment upon exit. There is little to no association between these two variables (-0.046). Twenty two (22) students (55%) had paid employment upon exit and were also engaged in clubs or community or student organizations in their last year of the program. Of those engaged in clubs or community or student organizations during their last year of the program, about half (53.6%) had paid employment upon exit. While the significance level (-0.244) reveals little to no association, this is the largest significance in this section and is almost demonstrative of a weak negative correlation. Twenty seven (27) students (67.5%) who had paid employment upon exit were also engaged in Best Buddies (Peer friendship organization) in their last year of the program. Of those engaged in Best Buddies (Peer friendship organization) during their last year of the program, more than half (62.8%) had paid employment
upon exit. The significance (0.009) shows little to no association among the two variables. Four (4) students (10%) who had paid employment upon exit were also engaged in other social activities in their last year of the program. Of those engaged in other social activities during their last year of the program, half (50%) had paid employment upon exit (see Table 15). There is little to no association between the variables (-0.098). All student records indicated some form of participation in social activities.
Table 14

Summary of Cross Tabulation and Significance Results for Dependent Variable of Paid Employment Upon Exit with all Social Activity Options

<table>
<thead>
<tr>
<th>Crosstabulations</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did this student have a paid job within 90 days of exiting the program?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Going out with personal friends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>39</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>23</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>2</td>
<td>64</td>
</tr>
<tr>
<td>Attend organized event on campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>33</td>
<td>7</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>23</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td>Attend or participate in sporting events</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>31</td>
<td>9</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>12</td>
<td>64</td>
</tr>
<tr>
<td>Social Activities: Greek system (fraternity/sorority)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>39</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>62</td>
<td>64</td>
</tr>
<tr>
<td>Clubs or community or student organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>18</td>
<td>40</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>----</td>
<td>----</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>23</td>
<td>64</td>
</tr>
</tbody>
</table>

**Best Buddies (Peer friendship organization)**

<table>
<thead>
<tr>
<th>Yes</th>
<th>27</th>
<th>13</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>16</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
<td>21</td>
<td>64</td>
</tr>
</tbody>
</table>

**Other social activity**

<table>
<thead>
<tr>
<th>Yes</th>
<th>4</th>
<th>36</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>4</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>56</td>
<td>64</td>
</tr>
</tbody>
</table>
Table 15

_Campus Membership Activity Participation and Employment Results Reconfigured_

<table>
<thead>
<tr>
<th>Type of Campus Membership Activity</th>
<th># of Students (# of Sample)</th>
<th># (%) of Students Employed Upon Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Going out with personal friends</td>
<td>62 (23.5%)</td>
<td>39 (62.9%)</td>
</tr>
<tr>
<td>Attend organized event on campus</td>
<td>56 (21.2%)</td>
<td>33 (58.9%)</td>
</tr>
<tr>
<td>Attend or participate in sporting events</td>
<td>52 (19.7%)</td>
<td>31 (59.6%)</td>
</tr>
<tr>
<td>Social Activities: Greek system (fraternity/sorority)</td>
<td>2 (0.76%)</td>
<td>1 (50%)</td>
</tr>
<tr>
<td>Clubs or community or student organizations</td>
<td>41 (15.5%)</td>
<td>22 (53.7%)</td>
</tr>
<tr>
<td>Best Buddies (Peer friendship organization)</td>
<td>43 (16.3%)</td>
<td>27 (62.8%)</td>
</tr>
<tr>
<td>Other social activity</td>
<td>8 (3.0%)</td>
<td>4 (50%)</td>
</tr>
<tr>
<td>Total</td>
<td>264</td>
<td>157 (59.5%)</td>
</tr>
</tbody>
</table>

The only statistically significant association found throughout the correlational analyses was for the academic access variable, which examined the number of inclusive course. This factor had some form of correlation with paid employment upon program exit. The correlational analyses show a moderate positive relationship between the two variables, suggesting that taking at least one inclusive course is associated with increased likelihood of employment upon exit. It was surprising that none of the career development variables had any significant correlation with paid employment upon exit, since many of these opportunities are solely in support of facilitating employment experiences.
**Logistic Regression**

Binomial logistic regression enabled the researcher to identify which variables had a statistically significant effect on the dependent variable as well as how well the model predicts the dependent variable. It was chosen since it can be used to develop a model that predicts probability when the dependent variable is dichotomous and based on one or more independent variables that are either continuous or categorical, which is fitting for the variables in this data to include in the predictor model. The Omnibus Tests of Model Coefficients (Table 16) shows the overall statistical significance of a model which determines how well the model predicts. The case model Chi-square has 13 degrees of freedom, a value of 16.336 and a probability of $p > .05$. As such, the Sig. column (.231) is the probability of obtaining the Chi-square statistic (16.336) given that the null hypothesis is true (that is, there is no effect of the independent variables, all together, on the dependent variable). The chi-square test statistic was not significant because the Sig. column (.231) is greater than the p-value, and as such the model was not found to be statistically significant. The model was not found to be statistically significant since the value in the Sig. column (.231) is greater than the p-value. As such, the null hypothesis cannot be rejected. Within the analyses, three additional tables of results were used to interpret the results of the logistic regression model. First, the Model Summary (Table 17) was used to examine how much variation in the dependent variable can be explained by the model using the Nagelkerke RSquared (Laerd Statistics, 2015). The model explained 31.7% of the variance in paid employment upon exit.
Table 16

*Results of Chi-Square Analyses for Dependent Variable of Paid Employment Upon Exit and all Independent Variables*

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chi-square</td>
<td>df</td>
<td>Sig.</td>
</tr>
<tr>
<td>Step 1 Step</td>
<td>16.336</td>
<td>13</td>
<td>.231</td>
</tr>
<tr>
<td>Block</td>
<td>16.336</td>
<td>13</td>
<td>.231</td>
</tr>
<tr>
<td>Model</td>
<td>16.336</td>
<td>13</td>
<td>.231</td>
</tr>
</tbody>
</table>

Table 17

*Results of the Logistic Regression Model Summary for Dependent Variable of Paid Employment Upon Exit and all Independent Variables*

<table>
<thead>
<tr>
<th>Model Summary</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2 Log likelihood</td>
<td>Cox &amp; Snell R Square</td>
<td>Nagelkerke R Square</td>
</tr>
<tr>
<td>1</td>
<td>67.715(^a)</td>
<td>.233</td>
<td>.317</td>
</tr>
</tbody>
</table>

a. Estimation terminated at iteration number 20 because maximum iterations have been reached. Final solution cannot be found.

The Classification Table (Table 18) produced from this analyses provides a summary of the observed and predicted classifications in order to compare predictions with actual observations to see whether predictors are forecasted close to actual observations. SPSS Statistics classifies an event as occurring if the estimated probability of the event occurring is greater than or equal to
0.5. Likewise, if the estimated probability of an event occurring is less than 0.05, SPSS Statistics classifies the event as not occurring. This table provides the percentage accuracy in classification (PAC), sensitivity (true positives), specificity (true negatives), positive predictive value, and negative predictive value. The percentage accuracy in classification for this model was 70.3%. The sensitivity, the percentage of cases that had observed characteristic (paid employment upon exit) that was correctly predicted by the model (true positives), was 77.5%. In this model, 77.5% of students who exited with paid employment were also predicted by the model to have paid employment upon exit. Specificity, the percentage of cases that did not have the observed characteristic (e.g., no paid employment upon exit) and were also correctly predicted as not having the observed characteristic (true negatives) was 58.3%. For this model, 58.3% of students who exited did not have paid employment were correctly predicted by the model not to have paid employment. The positive prediction value, the percentage of correctly predicted cases with the observed characteristic compared to the total number of predicted cases having the characteristic, was 75.6%. In this model, this is 100 x (31/(10+31)) that were correctly predicted. The negative predictive value, the percentage of correctly predicted cases without the observed characteristic compared to the total number of predicted cases as not having the characteristic, was 60.9%. In this case, 100 x (14/(14+9)) of all cases predicted as not having paid employment upon exit, 59.1%, were correctly predicted.
Table 18

*Prediction Classification Table Produced from Results of Logistic Regression Model for Dependent Variable of Paid Employment Upon Exit and All Independent Variables*

**Classification Table**

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did this student have a paid job within 90 days of exiting the program?</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Step 1</td>
<td>No</td>
</tr>
<tr>
<td>Did this student have a paid job within 90 days of exiting the program?</td>
<td>Yes</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
</tr>
</tbody>
</table>

*a. The cut value is .500*

The Variables in the Equation table (Table 19) shows the contribution of each independent variable to the model and its statistical significance using the Wald Chi-Square statistic. The Wald Chi-Square statistic tests the unique contribution of each predictor within the context of the other predictors. The only independent variable found to add significantly to this model was number of inclusive course enrollments (variable labeled as @#ofEnrollments) since the Sig. column had a p value of 0.011, less than 0.05. While only one independent variable was found to be statistically significant within this model, this table can also be used to predict the probability of an event occurring based on one unit change in an independent variable while holding all other independent variables in the model constant using odds ratio.
Table 19

Results of the Wald Chi-Square Statistic to Examine the Contribution and Statistical Significance of Each Independent Variable to the Prediction Model

Variables in the Equation

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Number_of_enrollments_in_inclusive_courses</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>95% C.I. for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>.801</td>
<td>.316</td>
<td>6.414</td>
<td>1</td>
<td>.011</td>
<td>2.228</td>
<td>1.199 (4.14)</td>
</tr>
<tr>
<td>Step 1</td>
<td>SP1_1NewRec(1)</td>
<td>.223</td>
<td>1.818</td>
<td>.015</td>
<td>1</td>
<td>.902</td>
<td>1.250</td>
<td>.035 (63)</td>
</tr>
<tr>
<td></td>
<td>SP1_2NewRec(1)</td>
<td>-2.107</td>
<td>1.656</td>
<td>1.618</td>
<td>1</td>
<td>.203</td>
<td>.122</td>
<td>.005 (5)</td>
</tr>
<tr>
<td></td>
<td>SP1_3NewRec(1)</td>
<td>-.393</td>
<td>1.141</td>
<td>.119</td>
<td>1</td>
<td>.731</td>
<td>.675</td>
<td>.072 (7)</td>
</tr>
<tr>
<td></td>
<td>SP1_4NewRec(1)</td>
<td>-.502</td>
<td>1.817</td>
<td>.076</td>
<td>1</td>
<td>.783</td>
<td>.606</td>
<td>.017 (38)</td>
</tr>
<tr>
<td></td>
<td>SP1_5NewRec(1)</td>
<td>.147</td>
<td>.892</td>
<td>.027</td>
<td>1</td>
<td>.869</td>
<td>1.159</td>
<td>.202 (1)</td>
</tr>
<tr>
<td></td>
<td>SP1_6NewRec(1)</td>
<td>1.174</td>
<td>.891</td>
<td>1.736</td>
<td>1</td>
<td>.188</td>
<td>3.235</td>
<td>.564 (41)</td>
</tr>
<tr>
<td></td>
<td>SP1_95NewRec(1)</td>
<td>.198</td>
<td>1.146</td>
<td>.030</td>
<td>1</td>
<td>.863</td>
<td>1.219</td>
<td>.129 (09)</td>
</tr>
<tr>
<td></td>
<td>CDE1_1Rec(1)</td>
<td>-.123</td>
<td>.803</td>
<td>.024</td>
<td>1</td>
<td>.878</td>
<td>.884</td>
<td>.183 (5)</td>
</tr>
<tr>
<td></td>
<td>CDE1_2Rec(1)</td>
<td>-.101</td>
<td>.824</td>
<td>.015</td>
<td>1</td>
<td>.902</td>
<td>.904</td>
<td>.180 (1)</td>
</tr>
</tbody>
</table>
The odds ratio column (Exp(B)) provides information on the change in the odds for each increase in one unit of the independent variable. For example, for the number of inclusive course enrollments, an increase in one unit (i.e., number of courses enrolled in) increases the odds by 2.228 times. This means that the odds of receiving paid employment upon exit is increased by 2.228 times per inclusive course enrolled in (up to five courses per semester). This model revealed high odds ratios for the following independent variables: number of inclusive course enrollments (2.228), participation in unpaid internships (for-credit)(CDE1_3Rec) (143337905.823), going out with personal friends (SP1_1NewRec) (1.382), clubs or community or student organizations (SP1_5NewRec) (1.126), Best Buddies (Peer friendship organizations) (SP1_6NewRec) (2.883), and other social activity (SP1_95NewRec) (1.406). However, these will each be interpreted with other factors to determine their prediction effectiveness. For example, while unpaid internships (for-credit) (CDE1_3Rec) has an extremely high odds ratio (143337905.823), this factor also has an extremely high standard of error (40193.063), making
this variable unreliable for prediction. Likewise, while Best Buddies (Peer friendship organizations) (SP1_6NewRec) has a higher odds ratio than the number of inclusive enrollments category at 2.883, it also has a considerable standard error (.844). Going out with personal friends (SP1_1NewRec) (1.382), Clubs or community or student organizations (SP1_5NewRec) (1.16), and other social activity (SP1_95NewRec) (1.406) also have odds ratios over 1.0, but they also have considerable standard errors, ranging between .877 to 1.792.

Those independent variables with odds ratio values less than 1.000 indicate decreased odds for an increase in one unit of the independent variable. Surprisingly, this model yielded a number of decreased odds for independent variables, including service learning opportunities (CDE1_1Rec) (.905), unpaid internships (not for-credit) (CDE1_2Rec) (.954), volunteering and/or community service (CDE1_4Rec) (.808), unpaid individual work training sites (CDE1_5Rec) (0.477), attended organized events on campus (SP1_2NewRec) (.141), attended or participated in sporting events (SP1_3NewRec) (.593), and Greek system (fraternity/sorority) (SP1_4NewRec) (.584). This is surprising since each independent variable was selected with the hypothesis that it would add to the likelihood of exiting with paid employment.

The number of inclusive course enrollments was found to be statistically significant through both correlational and logistic regression analyses. Thus, there is agreement that there is a moderate and positive relationship between the number of inclusive enrollments and paid employment upon exit. Further, this relationship is sufficiently strong enough to be used for prediction purposes.

Alignment of Predictive Component(s) Found in this Study with Established Predictor

The researcher further examined the relationships between the programmatic components that have a strong correlation with employment with existent predictors in postsecondary
education and secondary transition. This analyses answered the second research question: How do the program components that are correlated with post-school employment align with the established in-school predictors of post-school success (Mazzotti et al., 2016) and predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017)? The results of the correlational analyses and predictive logistic regression model indicated that inclusive coursework was the only program component that is predictive and most closely correlated with post-school employment. Since the variables selected were based on a crosswalk across two predictor sets (Mazzotti et al., 2016; Southward & Kyzar, 2017) and the Cornerstones of Practice from ThinkCollege, the final step of this analyses involves further investigating the alignment of the predictors identified through this logistic regression model with the established predictors found in both the in-school predictors of post-school success (Mazzotti et al., 2016) and predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017). Specifically, the analyses described how the predictor identified through this study is aligned within each of the established predictor sets.

Mazzotti and colleagues (2016) reinforced inclusion in general education as a predictor of post-school success, which was originally cited by Test and colleagues (2009). They defined inclusion in general education as “require[ing] students with disabilities to have access to general curriculum and be engaged in regular education classes with peers without disabilities” (Mazzotti et al., 2016, p. 199). While this definition and predictor is geared towards the secondary level, it can be applied to the postsecondary level and is in alignment with the operational definition used for this study, which is the number of inclusive courses taken in a given year. Inclusive course enrollments are defined as “typical college courses attended by students with intellectual
disability and other college students” (Grigal et al., 2015, p. 475). Additional scholarship was found between 2009 and 2016 to add support to inclusion in general education, which resulted in this predictor continuing to have a “moderate level of evidence for predicting education and employment outcomes” (Mazzotti et al., 2016, p. 211). The findings from this study reinforce that inclusive coursework, which is similar to inclusion in general education at the secondary level, can predict post-school employment outcomes. Further, other predictors found by Mazzotti and colleagues (2016) may be included through students taking inclusive courses, such as self-advocacy/self-determination, career awareness, social skills, youth autonomy/decision making, and goal setting. For example, if students identified and selected the inclusive courses they enrolled in those decisions involve youth autonomy/decision making and the decision could potentially be based on their career goal, this encompasses both career awareness and goal setting. Furthermore, social skills and self-advocacy/self-determination are necessary to interact with professors and peers within an inclusive course.

The researcher also compared the findings from this study with those of Southward and Kyzar (2017) that recently identified predictors of competitive employment for students with intellectual and/or developmental disabilities. Within Southward and Kyzar’s (2017) predictor set, inclusive course enrollment fits nicely within their predictor of participation in post-secondary education, which includes both two and four-year colleges or any “type of education any year after high school” (p. 29). The present study adds to the body of evidence along with the two articles cited by Southward and Kyzar (2017) (Grigal, Hart, & Migliore, 2011; Shandra & Hogan, 2008) that there is a positive relationship between postsecondary education and competitive employment. Self-determination is a predictor also present in this predictor-set, just as it is for Mazzotti and colleagues (2016). As described earlier, self-determination was not
included in the present study, but it can be inferred that students engaging in inclusive coursework in postsecondary education are exhibiting self-determination in choosing coursework and engaging with professors and peers within the inclusive courses (e.g., asking for clarification on an assignment, choosing a topic for a paper or presentation, etc.).

Since inclusive course enrollments were the only program component found to be correlated with the positive post-school outcome of employment upon program exit, the researcher conducted a review of how inclusive coursework was incorporated into the two predictor sets used in the conceptual framework of this study (Mazzotti et al., 2016; Southward & Kyzar, 2017). This finding is consistent with the two predictor sets utilized in the conceptual framework of the study, as well as part of the academic access section of Think Colleges’ Cornerstones of Inclusive Higher Education. Inclusive course enrollments are aligned with the “inclusion in general education” predictor which is part of the in-school predictor of post-school success for all types of students with disabilities (Mazzotti et al., 2016). Similarly, inclusive course enrollments are aligned with the “participation in post-secondary education” predictor within the predictors of competitive employment specifically for people with intellectual disabilities (Southward & Kyzar, 2017).

**Summary of Findings**

The hypothesis of this study was that the combination of inclusive courses, unpaid/volunteer experiences, and social participation on campus would all be correlated with paid employment for students with intellectual disabilities upon exit. Furthermore, it was expected that participation in these three programmatic features would be predictive of paid employment upon exit. The findings from the correlational analyses and logistic regression model were in agreement that only one program component, inclusive course enrollment, was correlated and
predictive of paid employment upon exit. The hypothesis for the second research question was that the program components found to be correlated and/or predictive of paid employment upon exit from the first research question will align with the two established predictor models. While only one program component was found to be correlated and predictive of paid employment upon exit, it is aligned with both predictor sets used in the conceptual framework (Mazzotti et al., 2016; Southward & Kyzar, 2017).

This chapter presented the findings from the descriptive statistics regarding student demographics, as well as the results from correlational and logistic regression analyses. The following chapter will summarize and provide perspective on the findings. This final chapter will draw conclusions about the findings of this study and connect back to the theoretical and conceptual frameworks that undergirded the study. Implications for the field as along with the study’s strengths and limitations, will also be discussed in the final chapter.
Chapter Five

Discussion & Conclusion

The unemployment rate of people with intellectual disability in 2010 was 85%, and of the 15% employed, only 48% received competitive wages and 24% received benefits (Southward & Kyzar, 2017); this is unacceptable. Employment is a common goal which united stakeholders, and postsecondary education is a pathway to employment, including for people with intellectual disabilities. Employment impacts a myriad of areas in an individual’s life, including quality of life, independence, and economic self-sufficiency.

This final chapter of the study provides a discussion of the results, including implications for policy and practice as well as future research. The chapter begins with a summary of the purpose and context of the study, including related limitations. The researcher sought to add to the emergent knowledge base on program components of inclusive higher education programs that result in positive post-school outcome of employment for people with intellectual disabilities. This study sought to bridge the current gap where the literature is limited with regard to studies that correlate specific support, elements, and content domains to post-school outcomes at the postsecondary level. Only student-level data was available in the existing dataset used for the secondary analyses. However, program components through student-level data entry were able to be gleaned (e.g., inclusive coursework, internship experiences, and social participation). As such, the researcher focused only on program components since programs can change their components of the programs as needed to facilitate better outcomes for students. Student characteristics and prior experiences were available in the dataset and were described briefly in the fourth chapter to provide context for the sample. The outcome variable investigated in this dataset was competitive, paid employment upon exit, which is the most frequently reported
indicator of college program success, both for college students in general and for students with disabilities.

The broad question addressed through this study was: Which components of the postsecondary education programs for students with intellectual disability contribute to the successful transition outcome of employment? In order to answer this question, two specific research questions guided the study as follows:

Research Question 1: Based on secondary analyses of data collected on students from three 2010-2015 funded TPSID programs in Florida, which program components are correlated with the post-school outcome of paid, competitive employment?

Research Question 2: How do the program components that are correlated with post-school employment align with the established in-school predictors of post-school success (Mazzotti et al., 2016) and predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017)?

Related to the first research question, it was expected that students with a greater number inclusive course enrollments, career development activities, and participation in social activities would be more likely to exit the postsecondary program with paid employment. This hypothesis was somewhat reinforced by the findings from the study since one of the three domains of variable clusters (inclusive course enrollments) was both correlated and predictive of paid employment upon program exit. It was unexpected that none of the specific variables within career development were correlated or predictive of paid employment upon exit given that the targeted nature of these activities are specifically focused on students’ employment experiences and have been found by earlier studies to be predictive of employment with different populations (Test et al., 2009).
The hypothesis for the second research question was that the program components from the first research question would align with the two established predictor models. While only one program component, inclusive course enrollment, was found to be correlated and a predictor of employment upon program exit, it was present in both predictor sets (Mazzotti et al., 2016; Southward & Kyzar, 2017) that guided the conceptual framework of this study. The results from the initial research question led the researcher to further explore the only correlated and predictor variable with employment upon exit within exiting predictor frameworks. This exploration involved looking deeply at the predictors identified in the existing two predictor sets (Mazzotti et al., 2016; Southward & Kyzar, 2017) that were related to inclusive course enrollment and examining similarities and differences. For example, inclusive coursework was found to be similar to Mazzotti et al.’s (2016) predictor of inclusion in general education at the secondary level, both of which predict employment outcomes. Within Southward and Kyzar’s (2017) predictor set inclusive course enrollment fits within their predictor of participation in post-secondary education. As such, there was great alignment among the two research questions, and the findings were consistent between the two research questions. The findings from the second research question also reinforced the use of the two predictor frameworks (Mazzotti et al., 2016; Southward & Kyzar, 2017) in the development of the study.

Limitations of the Study

One key limitation of this study is the small sample size. Further, there were geographical limitations in that all of the data came from one state. Thus, the goal is not to generalize the results from this study to other postsecondary programs or beyond the state of Florida. Instead, this study identifies program components that could enhance post-school outcomes that may be used by other programs seeking to develop programs or enhance their students’ opportunities to obtain gainful employment. As is common for secondary data, the data was collected for students
enrolled between 2010 and 2015, which is not necessarily current data (O’Leary, 2014), although by research measures it is hardly outdated. Earlier programs may have had less student enrollment or a lack of more advanced programmatic features that have emerged. In addition, some of the variables available in the dataset lacked depth (Koziol & Arthur, 2011), and it was initially challenging to determine which variables to include in the analyses to answer the research questions.

This secondary analysis of an existing dataset has the limitations often traditionally associated with secondary analyses. That is, the data is situational and was not collected with the current intent of this study (Johnston, 2014; O’Leary, 2014). The methodological flaws of the original data collection process may not have been known (O’Leary, 2014). The researcher was not a part of the data collection process at the national level and of the purposes of utilizing the data collected. However, the researcher was a part of the programmatic-level data collection efforts for her specific institution of higher education. Further, the researcher contacted the original researchers to gain insight into the dataset and also reviewed the student data collection tool produced by the National Coordinating Center along with related National Coordinating Center publications and reports based on the national dataset of which this study’s sample was extracted. The researcher’s positionality within the research context was noted throughout this study to highlight that while secondary analyses typically result in having a minimal relationship between the researcher and the researched, this was not the case in this study.

In addition to limitations as a result of secondary analyses, it is important to consider the limitations of correlational analyses in general. Correlational analyses do not identify causal relationships and can produce unreliable findings that may sometimes identify relationships between variables that have no interpretable meaning. For example, an alternative hypothesis for
the findings from these correlational analyses could be that students who take inclusive courses were more capable, had better communication skills, more family support, and richer experiences prior to enrollment in the postsecondary program. With this study design, it was not possible to rule these considerations out and thus the findings must be interpreted with these limitations in mind. Further, correlational analyses are less rigorous than experimental designs because there is minimal control over the independent variables (Isaac & Michael, 1997; Papay, 2011).

**Significance of the Study**

While there were limitations within this study, the results do contribute to the field and there were advantages to the chosen dataset and methodology. This section will detail the strengths and significance of the study, beginning with the strengths of the methodology and design and then leading into the implications of the study results for policy, practice, and future research.

The challenges of working with secondary data have been described earlier in this study and chapter; thus it is worth noting the benefits of utilizing existing data and conducting secondary analyses. Working with indirect data removes interaction between the researcher and the data, which removes the possibility of tainting the data (O’Leary, 2014). Like many datasets chosen for secondary analyses, the dataset used in this study was of considerable breadth (Koziol & Arthur, 2011). There were hundreds of variables contained within the dataset for the researcher to choose from. Another advantage of using this dataset is that it was designed by leaders in this niche field of inclusive postsecondary education; as a result, the data collected is relevant to what was currently known to be factors associated with the positive outcomes of students with intellectual disabilities in inclusive college programs at the time it was developed.

The use of pragmatism as a theoretical framework allowed the researcher to recognize
prior experiences as well as contextual, emotional, and social factors surrounding this study. Further, pragmatism emphasizes the “why” of inquiry. The researcher made certain decisions throughout the design of this study based on her prior experiences within the field as well as her own values and ideas about what will be needed in the future as both a researcher and a program administrator. For example, the researcher recognized that outcomes, particularly employment, are essential to these programs and the sustainability of these programs and the field in the future, which is why she chose to pursue this line of inquiry. The theoretical framework utilized throughout this study, pragmatism, calls for reflection on certain ethical considerations (Noddings, 2005). In particular, the researcher considered how this research may benefit or harm those involved within the study context while designing the study and analyzing the data. The results from this study benefit current and future people with intellectual disabilities who may enroll in inclusive postsecondary education because the study is an initial step in determining what program components or elements contribute to the positive post-school outcome of employment. Due to the nature of this post-facto secondary analyses, it is not likely that anyone was hurt or likely to be hurt from this analyses.

Correlational analyses have been used in the broader field of secondary transition consistently for the past decade (Papay, 2011). This study utilized this common methodological design but focused on a specific population of students, those with intellectual disabilities, and a specific type of programming, inclusive postsecondary education. Similarly, the identification of predictors is common practice within the K-12/secondary transition literature, and it has been suggested as a future research undertaking for postsecondary education to follow suit to identify predictors in the postsecondary realm for student success (Dukes et al., 2017). Developing a predictor set at the postsecondary level could begin with a map of the existing predictors in
secondary education, employment, independence, and quality of life outcomes paired with the established practices identified in general college success literature. This mapping process could lead to a comprehensive view of the required aspects of postsecondary education to facilitate positive outcomes for all students, particularly students with disabilities and students with more significant support needs. This is in alignment with Morningstar and colleagues’ (2013) call for a systemic approach to education encompassing the continuum of educational careers, from pre-school to post-school, that emphasized a human capabilities philosophy.

Implications

The findings of this study are important and add to the limited research available on specific programmatic components of inclusive postsecondary programs that lead to the desired outcome of paid, competitive employment. Furthermore, the results of this study may lead researchers and practitioners to question the fidelity of practices of career development experiences, such as internships, and tenants of campus membership, such as social participation, since these aspects were not found to correlate or be predictive of paid employment upon program exit (Bulter et al., 2016; McEathron et al., 2013). Both of these aspects are thought to be a vital part of the college experience provided through inclusive postsecondary programs. However, it is not suggested that this study alone disproves this as recent research still stands behind those assumptions. While career development and campus membership experiences were not found to be significantly related to post-school employment in this study, these aspects need further investigation to identify what these practices look like and how they can facilitate success with employment. As discussed earlier in this chapter within the limitations, it is important to consider other student-level factors, such as prior experiences, preparation and experiences, as well as communication skills upon entry in comparison with post-school outcomes to better
understand the types of skills necessary to success in college. This may also inform program entrance requirements and application procedures, although it should be cautioned that programs should also focus on how to provide instruction and experiences to build the required skills, not use them as a barrier to accessing college.

It is salient to continue to analyze existing (NTLS2; TPSID National Coordinating Center) and new datasets, such as those developed by individual programs or state consortia, related to program components and student outcomes in order to develop a predictor model for inclusive postsecondary programs that is similar to that extant in secondary transition for all students with disabilities (Mazzotti et al., 2016) and specific to students with intellectual and/or developmental disability related to employment (Southward & Kyzar, 2017). For example, future analyses could include comparisons among TPSID programs, regional analyses or a national sample drawn from the TPSID National Coordinating Center database.

**Policy Implications**

The current study demonstrates that inclusive postsecondary programs can produce positive post-school results, such as employment. The results of this study should be considered with a human capabilities agenda, instead of an agenda focused on human capital, of which employment is closely intertwined (Morningstar, Knollman, Semon, & Kleinhammer-Tramill, 2013). This study supports the need to create a seamless and systematic approach to an educational continuum, from pre-school to post school outcomes focused on preparing all people, regardless of ability, for life in our democratic society (Morningstar et al., 2013). Thus, the study reinforces the provisions within the HEOA to provide access to postsecondary education for students with intellectual disabilities. This study is an initial step in deciphering the focal elements of inclusive postsecondary programs.
The results of the study suggest that supporting inclusive coursework should be a key consideration since this is the only variable that was correlated and predictive of post-school employment. As such, policies at the federal, state, and local levels should support inclusive coursework as a major tenant of the inclusive postsecondary framework and collaborative efforts. When policy makers have a better understanding of what is happening in these programs and can compare program aspects and outcomes, additional funding and development can result (McEathron et al., 2013). Inclusive postsecondary education options for students with intellectual disability are expected to continue to expand due to recent and ongoing initiatives that have increased the opportunities for students with intellectual disabilities by providing funds to attend these programs (Grigal, Migliore, & Hart, 2014). Given the results of this study, the provisions within HEOA related to postsecondary programs for students with intellectual disabilities should continue to be supported. Within IDEA, inclusion throughout K-12 should continue to be emphasized, along with a renewed focus on increasing expectations for positive post-school outcomes and how to implement these experiences focused on the expectation of postsecondary education. Policies should prioritize funding to emphasize inclusive coursework with programs. For example, the provision of funding to support tuition for students to take inclusive coursework should be prioritized, including engaging related agencies to become involved, since the inclusive coursework within postsecondary education could facilitate employment and economic self-sufficiency. Studying the outcomes of this interagency collaboration is also necessary to inform future practice.

Since the results of this study are based on three programs within the state of Florida, it is important to highlight implications of the study within that context. Florida has been awarded
two rounds of TPSID funding for cohorts 2010-2015 and 2015-2020. Both awards have been used to support program development across the state operating as a consortium of existing programs. The TPSID momentum coupled with the Florida Postsecondary Comprehensive Transition Program Act (FS 1004.6495), which created the Florida Center for Students with Unique Abilities, have resulted in an increase in programs and student and family awareness of college as a possibility. Further, the Florida Center for Students with Unique Abilities provides student scholarships to attend approved Florida Postsecondary Comprehensive Transition Programs (FPCTP). The increase of inclusive postsecondary programs is further aligned with other related policies in Florida. For example, the repeal of the special diploma graduation option in 2014 was a step to remove the barrier of a non-traditional diploma on college admission. Furthermore, the expectation of employment upon exit that is a tenant of most inclusive postsecondary programs is in sync with the Employment First philosophy, which Florida adopted in 2011. Taken together, these initiatives should consider inclusive coursework as a necessary element of inclusive postsecondary education and policies should prioritize access to inclusive coursework for the emerging programs. The Employment First philosophy has been employed throughout the nation and the impact and alignment of the policy with the inclusive postsecondary education movement is a prime area for policymakers to facilitate interagency collaboration and research to inform practice.

**Implications for Practice**

The practical implications of the study results are far-reaching as there are many stakeholders involved in planning and implementing inclusive postsecondary programs. Inclusive program directors and coordinators should “ensure that research is guiding practice” and “guide transition program development, improvement, and evaluation” (Mazzotti et al.,
2016) and thus prioritize access to inclusive coursework for the students in their programs. For example, program administration should collaborate within their institutions of higher education to remove barriers and increase access to as many courses as possible, so that students will have authentic access to courses of their choice. Butler et al. (2016) recommend problem solving around service systems to remove barriers and facilitate access to postsecondary education for students with intellectual disabilities.

Institutions of higher education also need to be open to facilitating course access for students with diverse abilities. Barriers such as having courses closed to “majors only” and getting broad support from faculty should be a priority. Project Directors could work with university administration to obtain guidance on how best to go about this. For example, schools or colleges of Education may be a good starting point since many programs are extensions or included within this unit. Working with Deans or department chairs within a college is a great way to get a perspective regarding the types of courses open to general students and alleviate barriers to access from the start. Colleges and universities should also be concerned with incorporating learning strategies and self-determination skills at this level to facilitate the success of all students, including students with disabilities (Dukes et al., 2017). College and university administration should develop and promote programs that provide students with study skills as well as academic strategies and tools. Further, professors should incorporate evidence-based instructional practices to help promote college completion within their courses, such as Universal Design for Learning (UDL), Universally Designed Instruction (UDI).

Interagency collaboration is especially important to bridge between K-12, higher education, and the adult service providers, such as vocational rehabilitation, centers for independent living, and transportation among others. Vocational Rehabilitation counselors and
other agencies that support students through funding and other means in inclusive higher education programs should recognize and emphasize inclusive coursework since a relationship between inclusive coursework and employment has been found. Further, the results do not discern what kinds of courses the students in this study took, which means that regardless of the inclusive course content, any inclusive enrollment results in greater likelihood of employment. These results can be viewed as a starting point, as further research could address the type and content of the coursework. As such, the belief that students should only be supported to take courses that are related to their employment goals may not hold true.

This study also has implications for K-12 teachers, families and students prior to enrollment in postsecondary education. The expectation of inclusion and opportunities for postsecondary education for all students needs to permeate teacher preparation and in-service teacher programs so that all teachers have the awareness and mindset to support students with high expectations (Southward & Kyzar, 2017). Furthermore, lifelong learning should be expected and encouraged for people with intellectual disabilities just as it is for most people (Moore & Schelling, 2015). The opportunity to learn and take classes does not end after high school or a college program. There may be expectations or opportunities through employers for continuing education or just for leisure and recreation. While in K-12, teachers and families should ensure students are included in general education to the greatest extent possible, which is reinforced by both predictor sets used in the conceptual framework (Mazzotti et al., 2016; Southward & Kyzar, 2017). The more experience students have in inclusive settings during their K-12 educational careers, the more prepared they are to attend inclusive courses on a college campus. Southward and Kyzar (2017) suggest that school systems can help students meet their post-school goals by providing the required tools necessary to get paid employment, which
include self-determination skills and paid employment experiences. One of those very tools may be postsecondary education. Students and families need to be aware of best practices in postsecondary education that facilitate positive outcomes, such as employment, so they can make informed choices regarding their postsecondary educational options. As such, access to inclusive coursework should be emphasized as a priority when considering inclusive postsecondary education programs.

**Implications for Future Research**

While the term “inclusive” is a key part of the inclusive postsecondary movement for students with intellectual disabilities, additional research is required to unpack further what this means and looks like in practice and to elucidate fidelity measures to access quality of inclusion. This is consistent with earlier findings and recommendations in the broader secondary transition field (Cobb et al., 2013). Butler and colleagues (2016) expressed concern regarding the degree of inclusion. Specifically they suggest that “while students are included in integrated and inclusive higher education settings, true inclusion may not be taking place” (Butler et al., 2016, p. 297). Similarly, Kleinhammer-Tramill, Burrello, and Sailor (2013) discuss critical and humanizing pedagogy as a reminder that while what is taught is important, “equal consideration” should also be giving to “who is teaching, who is being taught, and how they are being taught” (p. 14). The degree of inclusivity and content of inclusive coursework should be explored within postsecondary programs for students with intellectual disabilities across domains (academic access, campus membership, etc.).

Additionally, the supports provided to aid students while they participate in inclusive coursework is necessary. Dukes and colleagues (2017) suggest that college success is more than just being admitted to college; it requires learning strategies and self-determination skills in order...
to obtain the support that students require. Dukes and colleagues (2017) describe the need to identify what works in supporting students with disabilities, in general, in postsecondary education. While skill instruction is taught explicitly through special education during K-12, this is often not the case in postsecondary education, thus future research is required to study the practices required to support postsecondary students’ success in inclusive courses. Essentially, future research needs to examine what skills are required or developed through taking inclusive courses that lead to positive post-school outcomes. This information could then lead to determining “treatment integrity” of the specific components within these programs (Cobb et al., 2013).

This leads to a discussion related to fidelity of implementation or fidelity measures of promising practices within inclusive postsecondary programs. This study reinforces McEarthron and colleagues’ (2013) assertion of the need to explore the extent to which program components are working and what elements may be missing from inclusive postsecondary programs. The need to explore specific program elements is suggested by McEathron and colleagues (2013) who developed a taxonomy for postsecondary program for students with intellectual disabilities. Specifically, they suggest that “while the taxonomy highlights common components and elements in PSE programs, additional research will need to explore the extent to which these are working and to identify essential elements that are missing from PSE program” (McEathron et al., 2013, p. 319). A mechanism to compare across programs should be established beyond McEathron and colleagues’ (2013) taxonomy to look at both programmatic features and employment as well as other post-school outcomes such as continuing education, independent living, and quality of life (Siperstein et al., 2013). The proposed conceptual framework utilized within this study could be an initial step in this direction while also modeling other recent
taxonomies developed in postsecondary education. For example, within the pedagogical domain of McEathron and colleagues’ (2013) taxonomy, the four essential elements provide a clearer understanding of how PSE programs differ in regard to academics: level of course integration, type of credits awarded, extent of course selection, and type of credential awarded upon completion. A literature map on inclusive postsecondary education, similar to the one developed for students with disabilities in general by Dukes and colleagues (2017), could be an initial step to develop a thorough taxonomy of the pedagogical components of these programs.

While career development and campus membership experiences were not found to be significantly related to post-school employment in this study, these aspects need further investigation to identify what these practices look like and how they can facilitate success with employment. As such, a more in-depth look at how each program addresses employment is warranted, since employment is the coveted outcome of inclusive postsecondary programs. While there is initial research about the employment supports provided in postsecondary programs for students with intellectual disabilities, further investigation is required to address the types of activities or components of postsecondary education programs for students with intellectual disabilities that lead to increased likelihood of post-school employment. Employment is an area in which literature has a “significantly lack[ing]” with regard to postsecondary education for students with intellectual disabilities (Moore & Schelling, 2015). Few studies have investigated the specific components of inclusive higher education programs that contribute to the positive post-school outcome of employment. In essence, investigating what it is about these programs that facilitate positive post-school outcomes is needed. The results from this study add to the research related to the relationship between postsecondary education and improved integrated paid employment outcomes for students with intellectual disabilities. Nord and
Hepperlen (2016) call for future research to examine the connectedness of Vocational Rehabilitation service delivery to better articulate facilitators of employment outcomes. This same call can be applied to inclusive postsecondary programs by studying the service and supports provided in depth to see whether combinations of supports have better outcomes. Although such a connection is beginning to be established, Grigal and colleagues (2011) are calling for a more in-depth look at the factors (e.g., academic access, career development, campus membership, and self-determination) associated with the college experience and the quality of post-school outcomes of the experiences.

The National Coordinating Center’s database is ever increasing and currently has data on over 1,800 students since 2010. In addition, the database and data collection were refined during 2016 to better streamline the data collection process. This rich source of data should be utilized for further secondary analyses, especially those that look at programmatic factors in relation to post-school outcomes. Mazzotti and colleagues (2016) call for future research beyond just the use of NTLS2 studies, such as correlational studies using other data and sources to further explore factors that may impact post-school success (e.g., employment, quality of life, etc.).

McEathron and colleagues (2013) describe that there is an abundance of single-case studies and qualitative analyses of small samples. This is reinforced by Moore and Schelling (2015) who describe that there is a wealth of descriptive literature and there is a need for more of quantitative data or additional multi-site case studies to demonstrate outcomes of inclusive postsecondary education. Within the broader field of secondary transition, Mazzotti et al. (2016) call for future researcher to consider the use of propensity score analysis, which seeks to approximate a random experiment from observational data, when conducting correlational research and for researchers to follow a set of quality indicator standards. Propensity score
utilizes observational data but mimics particular characteristics of a randomized controlled trial, a method that is not typically feasible in this field but is considered a “gold standard” for estimating the effects of treatments or interventions on outcomes (Austin, 2011). Further in secondary transition, there are a number of correlational studies conducted in secondary transition and some initial experimental designs, such as dynamic-panel estimation models (Mamun et al., 2017). Recently, Mamun et al. (2017) established a causal relationship between early work experience and employment for youth with disabilities through utilizing the dynamic-panel estimation approach which allowed the researchers to account of observed baseline variables such as socioeconomic status and health. As such, there is a need to continue to develop the evidence base of practices, elements, and interventions within inclusive postsecondary education.

Future research should address the need for targeted cross-program studies that seek to incorporate student perspectives in order to identify those aspects of postsecondary education programs that facilitated their ability to gain employment (Bulter et al., 2016; Moore & Schelling, 2015). A mixed methods design is warranted in order to analyze data collected through annual reporting from programs related to program components that also incorporate perspectives from current and former students with intellectual disabilities, as well as those people who support students, including mentors, program personnel, and family members. Morgan (2014) explains that “the time has come for social research to dig more deeply into pragmatism as a philosophy” (p. 1051). Pragmatism is complementary to research in this field and especially with mixed methods research. There is a need to deeply investigate program components within and among programs using a variety of data sources, from course descriptions, programs of study, program documentation, interviews and observations with
program and support personnel, to further unpack how an inclusive postsecondary program supports students with unique needs on a college campus. Qualitative methods are flexible and required to answer questions of how and why students are supported and to gather individual stories of success. The qualitative data from multiple programs and perspectives can then be used within cross-program comparisons and to develop a framework for describing the supports required for student success and positive post-school outcomes. This will provide a more comprehensive look at the support required and needs of students in inclusive postsecondary education from multiple perspectives.

Summary

A review of the research on employment outcomes of students with intellectual disability who engaged in postsecondary education programs was conducted where it became apparent that further research was required on the specific components of these programs that contribute to the positive post-school outcome of employment. In this study, quantitative data from the National Coordinating Center database for TPSID programs from the first cohort (2010-2015) was analyzed through a secondary analyses of student-level data to explore which components of the postsecondary education programs for students with intellectual disability contribute to the successful transition outcome of employment. The relationship between the three clusters of variables (academic access, career development, and campus membership) existent within the dataset and the post-school outcome of employment for exiters was examined. The program component of inclusive higher education programs found to be correlated and predictive of paid employment upon exit, that of inclusive course enrollment, was then compared with predictors of competitive employment for students with intellectual and/or developmental disabilities (Southward & Kyzar, 2017), as well as post-school success within the broader field of secondary transition (Mazzotti et al., 2016). A discussion of the results as well as implications for policy,
practice, and future research for inclusive postsecondary programs for students with intellectual disabilities was provided so that a variety of stakeholders including program personnel, institutions of higher education, agency and community partners, policy makers, students, and parents can make informed decisions about inclusive higher education programs when quantitative data is analyzed with regard to the aspects that correlate to improve post-school outcomes. Postsecondary education can be a pathway to employment for people with diverse abilities.
References


participation in higher education make a difference in life outcomes for students with intellectual disability? *Journal of Vocational Rehabilitation, 44*, 295-298. doi: 10.3233/JVR-160804


http://scholarcommons.usf.edu/etd/5973


McEathron, M. A., Beuhring, T., Maynard, A., & Mavis, A. (2013). Understanding the diversity: A taxonomy for postsecondary education programs and services for students with


http://education.ucf.edu/mirc/Research/President's Commission on Excellence in Special Education.pdf


## Appendix A. Dissertation Management Plan/Timeline of Activities

**Spring 2017**  
**Goal/Activity Description**  
<table>
<thead>
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<th>Week &amp; Date</th>
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1. Finalize/submit dissertation proposal to MP  
2. Make revisions from co-MPs  
3. Schedule dissertation defense  
4. Prepare for dissertation defense  
5. Defend Proposal  
6. Revise proposal per committee  
7. Identify / refine variables and analysis procedure  
8. Submit IRB  
9. Conduct secondary analysis for FL dataset  

Proposal Defense: 2/15/17
<table>
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<tr>
<th>Summer 2017 Post- Study Activities</th>
<th>Week &amp; Date</th>
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<tr>
<td></td>
<td>17: 4/24/17</td>
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<tr>
<td>1. Continue to Conduct secondary analysis for FL dataset, build on initial descriptive into advanced correlation and logistic regression</td>
<td>1: 5/1</td>
<td>Hosted FL DCDT state conference in early May</td>
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<td>13: 7/24</td>
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<tr>
<td>2. Update chapter 3 w/ greater detail</td>
<td>14: 7/31</td>
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<tr>
<td>3. Analyze data</td>
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<tr>
<td>4. Write analysis &amp; implications section</td>
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<td>Check in w/ MP</td>
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<th>Fall 2017 Goal/Activity Description</th>
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<td><strong>Week 16: 12/4</strong></td>
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<td><strong>Week 17: 12/11</strong></td>
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### 1. Write analysis & implications section
### 2. Review & revise
### 3. Prepare final draft of dissertation for MP review
### 4. Revise dissertation per MP feedback
### 5. Send dissertation draft to CM
### 6. Pre-defense meeting
### 7. Submit request to defend
   - **Deadline: 10/16**
### 8. Prepare for dissertation defense
   - **Present DCDT Poster on findings 10/13**
### 9. Apply for graduation
   - **Deadline: 9/22**
### 10. Dissertation Defense
   - **Deadline: 11/2**
   - **Scheduled 10/31 at 2pm**
### 11. Make any revisions per committee
### 12. Resubmit to committee
### 13. Finalize/prepare to submit to ETD
   - **Signed up for ETD sessions: 10/26, 11/2, 11/9**
### 14. Submit to ETD
   - **Deadline: 11/17**
### 15. Graduation
   - **12/9**
Appendix B. Copyright Permissions

National Technical Assistance Center on Transition (NTACT)
Improving Postsecondary Outcomes for All Students with Disabilities

NTACT is a Technical Assistance and Dissemination project, funded by the U.S. Department of Education's Office of Special Education Programs (OSEP) and the Rehabilitation Services Administration (RSA), Cooperative Agreement Number H326E140004. NTACT is funded from January 1, 2015 until December 31, 2019.

NTACT's purpose is to assist State Education Agencies, Local Education Agencies, State VR agencies, and VR service providers in implementing evidence-based and promising practices ensuring students with disabilities, including those with significant disabilities, graduate prepared for success in postsecondary education and employment.

NTACT will identify and promote evidence-based and promising practices to:

- Increase access, participation, and success of students with disabilities in academically rigorous instruction and assessment, in preparation for college, career, and community readiness
- Increase access, participation, and success of students with disabilities in career-related curricula and activities in preparation for college, career, and community readiness
- Improve the provision of additional factors associated with quality transition planning and school completion, such as engagement, leadership, self-advocacy
- Promote collaboration and stakeholder engagement focused on improving college, career, and community success
- Increase the use of data-driven decision making to improve programs and systems that address college, career, and community readiness, as well as use of early warning systems and interventions focused on reducing dropout and increasing graduation rates for students with disabilities
- Promote use of effective personnel development, coaching, and technical assistance strategies that build state and local capacity to prepare students with disabilities for college, career, and community readiness

NTACT’s four major activities include (a) knowledge development, (b) technical assistance (TA) and dissemination, (c) leadership and coordination, and (d) evaluation. NTACT’s TA is offered at universal, targeted (time limited and specific focus), or intensive (sustained for the life of the grant for a select number of states and a corresponding local community). For more information about NTACT and its activities, view the webinar hosted on April 14, 2015 here: http://adobeconnect.com/p24z4awfcoo/ (http://adobeconnect.com/p24z4awfcoo/).

Universal Accessible to All

- Accessible website
- Access to self-directed online learning
- Webinars
- eNewsletters
- Response to inquiries

Targeted

- Support for STA/VR review
NTACT will collaborate with other federally funded centers and national organizations associated with its purpose.

NTACT is a partnership of the University of North Carolina at Charlotte, University of Oregon, Western Michigan University, the Transition Coalition at the University of Kansas, and TransCen, Inc. The project's co-directors are David Test - dwtest@unc.edu (mailto:dwtest@unc.edu), Lou Jeanne Bost - bost@unc.edu (mailto:bost@unc.edu), Paula Kohler - paula.kohler@uwm.edu (mailto:paula.kohler@uwm.edu), and Deanne Umbrich - dumbrich@oregon.edu (mailto:dumbrich@oregon.edu). The project coordinator for NTACT is Calen Fowler - cfowler@unc.edu (mailto:cfowler@unc.edu). Additional leadership, technical assistance providers, knowledge development specialists, and evaluation specialists include Ruth Allen, TransCen, Inc.; Charlotte Ahrens, University of Oregon; June Goebel, Western Michigan University; Jennea Hyatt, TransCen, Inc.; Matthew Klaas, UNC Charlotte; Dana Lattin, Transition Coalition at the University of Kansas (KU); Caroline McTavish and Valerie Mazzetti, University of Oregon; Mary Morningstar, Transition Coalition at KU - mmorningstar@ku.edu (mailto:mmorningstar@ku.edu); Laura Owens, TransCen, Inc. - lowens@transcen.org (mailto:lowens@transcen.org); Dawn Bowes, University of Oregon; Kelly Clark, UNC Charlotte; Debra Holzberg, UNC Charlotte; Brian Molina, Western Michigan University; Bradley Stevenson, UNC Charlotte; Misty Teneri, UNC Charlotte. Florence Parkhill, UNC Charlotte and Karen Devries, Western Michigan University provide administrative support for NTACT.

NTACT is funded by a grant from the U.S. Department of Education, Office of Special Education Programs and the Rehabilitation Services Administration Grant No. H326E140004 from January 2015 through December 2019. Dr. Selese Awoke serves as the project officer from OSEP. Ms. Kristen Rhinehart-Fernandez serves as the project officer from RSA. The views expressed herein do not necessarily represent the positions or policies of the Department Education. No official endorsement by the U.S. Department of Education of any product, commodity, service, or enterprise mentioned herein is intended or should be inferred. Products and resources here are public domain. Authorization to reproduce in whole or in part is granted. While permission to reprint is not necessary, citation recommendations for specific documents are noted on the individual documents.
Hi Clare,

I hope you are doing well!

I am preparing to defend my dissertation next week but am getting a head start in requesting any required copyright for when I submit to our university's dissertation database/ProQuest.

I would like to include an image on the Think College Cornerstone's of Practice in my dissertation as part of the conceptual framework. I have already referenced it as requested at the end of the document. I just need something that says it is ok to use to
Yes, Danie. You are certainly allowed to use that image. Good luck with your dissertation defense!

Thanks so much for getting back to me so quickly, Cate! Thanks for the well wishes!

Danie

L. Danielle Roberts-Dahm, M.A.
Co-Director
Project 10: Transition Education Network
Director
Florida Consortium on Inclusive Higher Education
Division of K-16 Educational Initiatives
University of South Florida St. Petersburg

Mailing: 140 7th Ave. South - SVB 101

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ABOUT THE AUTHOR

L. Danielle “Danie” Roberts-Dahm, M.A., is the co-director for Project 10: Transition Education Network and the former director of STING RAY (Students Transitioning Into the Next Generation, Recognizing Alternatives for Youth), housed at the University of South Florida St. Petersburg (USFSP). She is also a partner within the Florida Consortium on Inclusive Higher Education and serves as the past-president for the Florida Division on Career Development and Transition (FDCDT). Her experiences working with students in transition and inclusive higher education inspired her to continue her education in the field of special education and policy studies USF.