ACADEMIC COACHING AS A TRANSITION MODEL FOR GRADUATING COLLEGE STUDENTS
WITH DISABILITIES

BY

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ACADEMIC COACHING AS A TRANSITION MODEL FOR GRADUATING

COLLEGE STUDENTS WITH DISABILITIES

BY

LEE ANN GRIESHEIMER

Submitted to the Faculty of the Graduate School of
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DEDICATION

Peter Higgs, you really are the best.

In memory of Sandy Douglas.

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ABSTRACT

The primary purpose of this study was to determine if there was a statistically significant difference in the bachelor's degree graduation rates of three groups of undergraduate students at a regional, public university in Kentucky. The three groups consisted of those registered with disability services, those registered with disability services who received individual coaching appointments, and those in the general population. This ex post facto study also compared if the three groups maintained a grade point average of 2.0 or higher at equivalent rates and examined the characteristics of students registered with disability services between 2011 and 2016. Although the study did not find statistically different graduation rates or differences in grade point average between the groups, when the two groups of students with disabilities were combined, they graduated at a slightly higher percentage in six years or less. Differences in graduation rates by disability diagnosis were noted, as were implications for future research and recommendations. The study may inform higher education disability professionals and institutional leaders of best practices in the field.

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CHAPTER 1

Introduction

Since the adoption of Section 504 of the Rehabilitation Act (1973), under federal law, individuals with disabilities are defined as "any person who has a physical or mental impairment which substantially limits one or more… major life activities, a record of an impairment, or is regarded as having such an impairment. "Now almost fifty years old, Section 504 paved the way for equitable education across the United States. Public universities and most private universities are obligated to provide services for students with disabilities under Subpart E of Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA; 1990), and the ADA Amendments Act of 2008 (2009).

According to Section 504, article 794, "no otherwise qualified person with a disability in the United States, due to disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance" (Section 504, Rehabilitation Act of 1973, 1973). The ADA Amendments Act of 2008 further clarifies the 1973 and 1990 laws, adding broader consideration for people with the appearance or history of a disability to receive additional protection. The Office of Civil Rights investigates any discrimination claims at the postsecondary level.

In compliance with the laws, and to help narrow the gap between those with and without a college degree, all public universities and most private universities that receive federal funds must arrange accommodations for students with disabilities (U.S. Department of Education & Office for Civil Rights, 2011). Academic adjustments or

accommodations include, but are not limited to, extended time on tests, testing in a low stimulus environment, meeting with a professor for clarification, and course substitution. Also, auxiliary aids such as recording devices for notetaking assistance, interpreting services, and digital access to books are provided at no additional cost to the student. That notwithstanding, 65% of students with disabilities move from a high school to a postsecondary setting (Sanford et al., 2000). Furthermore, these college-bound students with disabilities are often not fully prepared to meet the challenges and rigor of higher education (Newman et al., 2020; U.S. Department of Education & Office of Special Education and Rehabilitative Services, 2020).

Individualized Education Plans (IEPs), which are developed for qualified high school students with disabilities under the Individuals with Disabilities Education Act (IDEA; 1990), mandate annual transition plans when a child turns 16 or younger (if determined appropriate). By law, the IEP must include appropriate measurable postsecondary goals based upon age-appropriate transition assessments related to training, education, employment, and the transition services (including course of study) needed to reach those goals. However, according to the 41st Annual Report to Congress, 13.2% of Kentuckians and 17.1% served by special education under the IDEA for the 2016-2017 school year dropped out of high school (Davis, 2020). For these students, postsecondary training and education are even further out of reach.

Students with an impairment that does not qualify them for special education services and an IEP receive accommodations through a 504 plan under Section 504 of the Rehabilitation Act of 1973. Students with 504 plans often have an academic impairment due to a mental health issue, a medical condition that may lead to excessive absences or

other academic deficits that are not easily identified. Students that receive accommodations through a 504 plan are not legally mandated transition services through federal law. However, 504 recipients tend to attend college at a higher rate than students with IEPs, although at a lesser rate than those without disabilities (Lipscomb et al., 2017). Possibly because they did not receive transition planning under the IDEA law (1990), students with 504 plans do not realize they are eligible for accommodations in a higher education setting as a student with a disability.

Studies cite various reasons for the lack of student persistence, including rising college tuition costs, absence of family support, isolation from a college community, and a lack of academic preparation from high school (Leake & Stodden, 2014; Lipscomb et al., 2017; Liu et al., 2018). Regardless of the support received in high school, students with disabilities who are accepted into a postsecondary institution have a right under federal law to the accommodations that make colleges accessible to them, including support through the transition from high school to college. Not completing a college degree has long-term repercussions for the individual and the country. According to Sandel (2020), remaining without a degree has personal emotional consequences and long-term personal financial consequences.

Introduction to the Problem

The Americans with Disability Act (1990) and Section 504 (1973) conferred language for accommodation in higher education settings, including physical accessibility to the campus at large or classroom areas, residential living, and academic adjustment. Each area individually addressed to provide equal access. However, fewer students with a disability enrolled in postsecondary education than those in the general population

(Houtenville & Boege, 2019; Houtenville & Rafal, 2020; Kraus et al., 2018). In 2019, 16.1 percent of people with disabilities had a bachelor's degree or more, compared to 39.2 percent of their peers without disabilities, a gap of 23.1 points. A statistically significant widening of the college degree gap between those with and without disabilities was detected between 2008 and 2019, increasing slightly from 21.5 to 23.1 percentage points (Houtenville & Rafal, 2020).

Youth with disclosed disabilities are approximately 13% of the United States population and about 11% of the college-age population (Lipscomb et al., 2017). Nevertheless, the National Longitudinal Transition Study (2012) analysis indicated that students with disabilities graduated from high school at lower rates, attended college at less frequent rates, and subsequently earned less money as adults (Liu et al., 2018). Thus, they are considered at-risk students. Although more students with disabilities attend postsecondary institutions than ever before, a statistically shrinking proportion of students move into this setting. Youth in special education programs are significantly less likely than their peers to take college entrance tests, 42% versus 70% (Lipscomb et al., 2017). Individuals aged 25 and over with disabilities in Kentucky were the least likely to have a 4-year college degree in the United States, around 6.5% of Kentucky youth in 2019 (Rafal & Houtenville, 2020).

As of February 2012, the employment rate for young adults ages 20 to 24 with disabilities was less than half the rate of their peers without disabilities (US Government Accountability Office & Moran, 2012). By 2018, the unemployment rate for all ages was 3.7%, whereas unemployment for those with a disability was 8%, more than double the percentage (Houtenville & Boege, 2019). The National Longitudinal Transition Study

(2012) verified that youth with an IEP are more likely than a decade ago to live in households that face economic challenges and twice as likely to report that their family received federal food benefits, 16% in 2003 versus 33% in 2012 (Lipsomb et al., 2017). Not incidentally, these students are primarily male, and black students represent the largest ethnic minority group (U.S. Department of Education & Office of Special Education and Rehabilitative Services, 2020). Disabled students who obtained bachelor's degrees were more likely to find employment (U.S. Bureau of Labor Statistics, 2021).

Statement of the Problem: Historical Perspective

The Individuals with Disabilities Education Act (IDEA, 1990; Individuals with Disabilities Education Amended Act, 2004) dictates that youth receive transition education, including information concerning postsecondary education, careers, and independent living related to their strengths and interests (Lui et al., 2018). Transition services consist of a coordinated set of activities for a student with a disability designed within a results-oriented process. The plan focuses on improving academic and functional achievement to facilitate the child's movement from school to post-school activities, including postsecondary education, vocational education, or integrated employment. Transition services are deemed essential for students with disabilities because such services increase the likelihood of competitive, integrated employment (U.S. Department of Education & Office of Special Education and Rehabilitative Services, 2020). Laws such as IDEA and state policies espouse the importance of transition for youth with disabilities. However, few have formally written about specific or successful postsecondary transition programs for students with disabilities.

IDEA (1990) emphasized assisting students with IEPs to prepare for their future with thoughtful, measurable, goal-based transition planning. However, the amended IDEA law (1990, 2004) postponed transition planning until 16 years of age instead of 14. The National Center of Educational Statistics indicates that high school graduation rates for students with disabilities are improving; thus, more students will benefit from transition planning. The latest data shows that 68% of students with disabilities graduated high school nationally and 76% in Kentucky in the 2018-2019 school year, up from 66% in Kentucky in 2014-2015 (U.S. Department of Education, National Center for Education Statistics, 2021). In a 2011 study of 29,662 high school students, 32.3% of those with Attention Deficit Hyperactivity Disorder (ADHD) dropped out of high school compared with 15% of students with no diagnosis (Breslau et al., 2011). Nationally, there is still a gap in high school graduation rates for people with and without disabilities, 68% to 86%, respectively (National Center for Educational Statistics, 2020).

The difficult transition from high school to post-high school employment merited a U.S. Government Accountability Office (GAO) report, which addressed the disconnect with service delivery coordination between government agencies (US Government Accountability Office & Moran, 2012). GAO described little accessibility or accountability in post-high school service delivery agencies and widespread misinformation regarding the available services to high school graduates with disabilities. For example, students falsely believed that eligibility for Vocational Rehabilitation disqualified them from receiving other benefits such as social security. Based on the Government Accountability Office's recommendations, government entities improved

their communication and coordination of inter-agency services (Federal Partners in Transition Workgroup, 2015).

In partial response to the amended Individuals with Disabilities Education Act (IDEA; 1990, 2004), the GAO report, and the employment gaps created by the great recession, the Workforce Innovation and Opportunity Act (WIOA; 2014) was passed to help job seekers with and without disabilities access employment, education, training, and support services for success in the labor market. The law also encouraged a collaborative support network involving higher education disability services, the Office of Vocational Rehabilitation, and high school special education personnel. Presently, the Office of Vocational Rehabilitation strives to attend high school IEP meetings to educate parents and high school seniors about postsecondary opportunities and support (U.S. Department of Education & Office of Special Education and Rehabilitative Services, 2020).

Although disabled college students were more likely to be white, of median income, and more socially and academically integrated than non-college-educated peers, they still withdrew in higher numbers than those without a disability, especially by the end of their first year (Koch et al., 2018). Functional limitations that result from a disability, such as difficulty concentrating, reduced problem-solving, sleep or medication disturbances, challenges with time management, and low attendance, place students with disabilities more at risk. These factors surpass the fact that college students with disabilities are likely to come from families with college-educated parents.

College students with disabilities are often underprepared due to a lack of academic skills, self-advocacy skills, time management, and self-determination

knowledge (Goudreau & Knight, 2018). Koch et al. (2018) suggested that students with disabilities might require support in addition to typical classroom accommodations, such as extended time on tests and low-stimulus test environments. Additional supports could include tutoring, disability-related workshops, and counseling services; some also proposed more individual assistance from university staff. Newman et al. (2019) also contended that disabled students benefit from supports beyond standard disability service accommodations.

Students with disabilities register for higher education at the same rates as the general population but do not graduate at the same rate (Newman et al., 2019). However, those with disabilities who access various supports and maintain relationships across campus are more likely to persist (Dyer, 2018; Newman et al., 2019, 2020). Families provide vital support for many young college students, especially those with disabilities, but the transition to adulthood requires further moves toward autonomy (Fowler et al., 2018). Due to the nature of postsecondary education, there is a greater expectation for independence. Collaboration through specifically designated support aids with transition and individual support is necessary to achieve positive graduation outcomes for students with disabilities.

Theoretical Framework

Schlossberg defined transition as any anticipated or unanticipated event or non-event that changes relationships, routines, assumptions, and roles (Schlossberg, 1981). Regardless of the student's age, attending college is a transition, especially if labeled with a disability. Graduating from high school and attending college as a traditional high school graduate is an anticipated event. A car accident or sudden medical emergency is

an unanticipated event. Often, nontraditional students with a disability return to college due to an unanticipated event, such as an accident or sudden career change. A non-event is a transition that was expected but never took place. A non-occurring non-event, such as a lack of a promotion or a relationship ending before marriage, motivates a return for additional education. Events and non-events can precipitate returning to college, which may assuage an individual's stagnation.

Schlossberg's transition theory is relevant for traditional and nontraditional students with disabilities entering college (Schlossberg, 1984). It offers a model for examining how personal perceptions of life events and life changes impact achievement, decisions, and future direction. Navigating through a transition depends upon an individual's perspective of the life event (in this case, beginning college) along with an assessment of personal strengths and weaknesses, all integral components of the transition plan in IDEA. The individual's culture, personal background, and expectations of postsecondary settings all impact a student's transition. Irrespective of the student's age or why someone attends college, any student wants to fit in socially and academically (Tinto & Pusser, 2006), and they want to feel a sense of belonging (Strayhorn, 2019).

For recent high school graduates, the process of transitioning to postsecondary education is, for the most part, expected and considered on time. However, a transition is challenging due to the high school's differences in approach from a postsecondary setting. College students move away from family support and, upon turning eighteen, are considered legal adults. The typical 18 to 22-year-old is moving from childhood into a phase of life known as emergent adulthood (Lancer & Eatough, 2018). With this concept in mind, Chickering and Schlossberg (2002) co-authored, *Getting the Most out of college*,

an orientation text for new college students to aid first-year students. The book is divided into three sections, moving in, moving through, and moving out of transition, in this case, college. Schlossberg states that moving in, through, and out of the college transition proceeds at a different pace for each individual (Anderson et al., 2012). Some move in, through, and out of the transition quickly. Others require more time and additional support.

Nontraditional students' entrance into college is usually the result of an event or non-event, such as an exit from the military, a divorce, an accident, or an expected or unexpected career change (or lack thereof). Anderson et al. (2012) recognized the difficulty of a nontraditional student. According to cultural norms, they considered the transition not on time, meaning it is not at the proper stage of life. Therefore, nontraditional students must adjust to college life transition, acknowledgment of a disability in some cases, and the event or non-event that precipitated college enrollment. Since nontraditional students generally have outside responsibilities and do not live on campus, there are various reasons for the lack of student persistence, including rising tuition costs, absence of family support, isolation from a college community, and a lack of academic preparation from high school (Leake & Stodden, 2014; Lipscomb et al., 2017; Liu et al., 2018). Nontraditional students may remain outside the college community and typical support systems, contributing to difficulty in a postsecondary setting.

People feel most capable when coping with a transition based on the number of options available to them and their agency over these options (David, 2016). The mindset of previous disappointments or failures can overshadow their current situation.

Effectively managing change is based on personal characteristics, support systems, and the nature of each transition. Some adjust to the social and academic demands of college life within weeks, and some take years. The transition process involves "taking stock of one's situation by considering the impact of background, level of self-confidence, and acceptance of personal identity" (Chickering & Schlossberg, 2002, p. 44).

Although all students can struggle with the transition to college, a disability causes an additional barrier (Schlossberg et al., 1989). The responsibility of registering and contending with the disability office and advocating for oneself adds to typical concerns such as roommate issues or time management. The ability to disclose the disability and discuss the situation, self, strategies, and support is imperative. Schlossberg calls these the Four S's and claims that if the student is not comfortable discussing the 4 S's, it is challenging to move in, move through, and move out of a transition. For example, students with disabilities share concerns over new classes and challenges from an academic setting (situation), acknowledging and disclosing disability status and limitations (self), communicating requests for academic accommodations and support (strategies), and developing relationships (support), the four S's.

Personal and demographic characteristics such as socioeconomic status, age, stage in life, state of health, gender, ethnicity, and culture; influence how students face and experience their transition (Anderson et al., 2012). Schlossberg (1989) discusses the importance of mattering and marginality in a college setting and how this dichotomy can either help or hinder the transition to college. Advising a student with a disability can broaden the ideas of mattering as well as help the student build a strong sense of self-efficacy. Coping strategies include the individual's options, which may be actual,

perceived, or created depending on where they are in the transition process, moving in, moving through, or moving out. Colleges must help students feel like they belong and are part of the college community through programming and institutional support. Feelings of belonging and support from university staff and faculty impart feelings of mattering. Although transitions are more manageable for some than others, transitions generally add to the student's repertoire of developing coping strategies and resilience.

High School to College Transition

The Individuals with Disability Education Act of 2004 requires a transition plan for students at age 16 who received special education services in high school. Transition plans occur at annual Individual Education Plan (IEP) meetings when the student turns sixteen. Transition plans "facilitate(s) the child's movement from school to post-school activities, including postsecondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation" (IDEA, 2004). The plan is based on the individual student's needs and considers their strengths, preferences, and interests. As mentioned, this is a civil rights mandate, not a guarantee. However, using data from the National Transition Study-2012, Lipscomb et al. (2017) indicated that participation in transition meetings has decreased from 2003 to 2012. Only 60% of parents and 70% of students say they met with school staff to discuss a postsecondary transition plan in 2012, compared to 79% of students and parents discussing a transition plan in 2003, a 19% decrease.

Since transition is a widely studied issue, several predictors are consistent with a successful transition. Students who received more transition education in high school

were more likely to disclose their disability early in their college experience (Lightner et al., 2012). Transition education can also include self-determination skills, self-advocacy techniques, awareness of strengths and weaknesses, self-regulation training, and help to set appropriate goals (Fowler et al., 2018; Parker & Field, 2016; Schlossberg et al., 1989). These supports may have been accessible and intrinsic to the natural supports in public schools and through one's family (Field & Hoffman, 1999, 2001); however, services such as university counseling, health services, disability services, and tutoring now need to be located and negotiated.

Many high school students enter college as passive learners (Getzel & Thoma, 2008; Tolman & Kremling, 2017). Students have the day planned for them in high school, and some receive acceptable grades without much effort. Parents coordinate events and check to see that homework is complete. Significantly, special education programs can legally modify high school curricula to meet the needs of students with disabilities, whereas university accommodations may not modify or alter program or course objectives (Newman & Madaus, 2015). Thus, postsecondary disability accommodations are generally nowhere near the level of support received in high school.

New college students often struggle with organization, the pace of college classes, and the increased level of independent learning; therefore, new strategies are necessary for success in higher education (Parker & Boutelle, 2009). Skill development in self-awareness, self-determination, and self-management supports students with disabilities in transition to college (Richman et al., 2014). Active self-advocacy and social engagement in the form of outreach to disability services, tutoring, and other student support services are necessary for student success (Dyer, 2018).

The U.S. Department of Education created and funded the National Center for Information and Technical Support for Postsecondary Students with Disabilities to provide assistance and information about best practices for students with disabilities transitioning from high school to college (*National Center for Information and Technical Support for Postsecondary Students with Disabilities*, 2016). In addition, the Office of Special Education and Rehabilitative Services (OSERS; 2017, 2020) published a guide in January 2017 and a revision in 2020 to help students and parents transition from school to post-school activities entitled *A Transition Guide to Postsecondary Education and Employment for Students and Youth with Disabilities*.

Finally, the federal Office of Vocational Rehabilitation provides financial assistance, technical aids and support, and additional resources for high school students with disabilities transitioning to postsecondary education in Kentucky and throughout every state in the United States. Vocational Rehabilitation services are available to any student with a disability, including those who received 504 services in high school, pending documentation and individual approval.

Even with immense federal and state support, early transition planning is an undervalued yet necessary service for this student population (Liu et al., 2018). Students who plan to attend college must adjust the curriculum in high school to prepare for college coursework. Transition planning provides education about navigating disability services and lets students know that accommodations are available. For some, college transition takes days or weeks; others need support throughout their college experience (Anderson et al., 2012). Some postsecondary students with disabilities may only require an accommodation letter describing academic or residential adjustments, whereas others

may require more support. The transition to postsecondary education is different and unique for each student and requires individualized consideration.

Purpose Statement

This study proposes a model of transition services for college students through academic coaching. Academic coaching provides transition support for students with disabilities entering four-year universities. Coaching is linked to improved self-efficacy and self-determination, which supports agency and autonomous decision-making and is associated with improved mental health (Goudreau & Knight, 2018; Griffiths & Campbell, 2009; Parker & Boutelle, 2009; C. Robinson & Gahagan, 2010; Schwartz et al., 2018).

Second, the study attempts to determine the difference in six-year (or less) graduation rates between the general population, those registered with disability services, and registered students who receive extra support through consistent, one-on-one meetings with a representative of the disability office. Although the study uses the terms coaching, academic coaching, or success coaching, a particular coaching service model is not advanced. Coaching focuses on engagement through a trust relationship with the student.

The coaching program's premise in the Center for Student Accessibility is to increase retention and promote graduation by establishing a trust relationship with the student. The conversations are student-driven and not dictated by goals or agendas. Coaching sessions are iterative conversations designed to support students transitioning

into, through, and out of their undergraduate program based on Schlossberg's transition theory. Each conversation differs because every student is unique.

Research Questions

The following research questions were designed to guide this study. It sought to investigate the relationship between graduation rates between three groups, the general population, students registered with the Disability Service Office, and students registered with the office who received one-on-one academic coaching.

1. Is there a difference in graduation rates between those registered with the disability service office, those registered with disability services who met for one-on-one coaching appointments, and the general population who graduated in six years or less?

2. What are the descriptive statistics of those who registered for services as a student with a disability? For example, do students with specific disabilities have lower graduation rates, or do those with autism, ADHD, mental health diagnosis, and other physical disabilities graduate at commensurate rates?

3. Did students in the three groups (registered with disability service, registered and coached, and the general population) maintain a grade point average (GPA) of 2.0 or higher throughout their time at the university?

4. Is group status (those registered for disability services, registered and coached, and the general population) and second-year fall retention, as indicated by second-year enrollment, predictive of obtaining a bachelor's degree in 6 years or less?

Significance of the Study

This quasi-experimental study hopes to provide further evidence for the efficacy of student engagement through academic coaching for students with disabilities in a postsecondary environment. Academic coaching is a relatively new approach to support students with disabilities, and this study hopes to add to the literature. Institutions may find the study valuable to complement student service offerings that positively impact academic engagement and graduation rates.

Study Limitations

The study is dependent on information entered by disability service staff over ten years. Data will be collected from 2011 to 2022 from the university's institutional research department. Individual identities will be kept confidential. As legal adults, students must voluntarily register for services with the disability office and provide documentation to support their requests. In addition, the students who participated in the coaching program did so voluntarily as a supplement to receiving accommodations.

Definition of Terms

Academic coaching: A collaborative relationship between a college student and staff person. Coaching focuses on the student's goals through the development of self-determination, academic strengths, planning, and acting as a liaison to other resources to aid in the completion of their college degree (Barkley, 2011; Capstick et al., 2019; Parker et al., 2018; Sleeper-Triplett, 2008).

Attention Deficit Hyperactivity Disorder (ADHD): A consistent pattern of inattention or impulsivity, or hyperactivity that interferes with or reduces the quality of social, school,

or work functioning, ruling out another disorder and prevalent before age 12 (American Psychiatric Association, 2013)

Autism Spectrum Disorder: A person with deficits in social, communication, and interaction areas across multiple contexts. In addition to deficits in areas of restricted or repetitive behaviors (American Psychiatric Association, 2013).

Self-determination: The ability to define and achieve goals based on a personal foundation of knowing and valuing oneself (Field & Hoffman, 1994, p. 136).

Specific Learning Disorder: A neurodevelopmental disorder that impedes the ability to learn or use specific academic skills such as reading, writing, or arithmetic, which are foundational to other learning (American Psychiatric Association, 2013).

Transition: Any event or non-event that results in changed relationships, routines, assumptions, and roles (Schlossberg et al., 1989).

Conclusion

These gaps between the disabled and non-disabled and the college-educated and non-college-educated have wide-ranging implications for the United States. Michael Sandel, a well-known philosopher from Harvard, states that the reliance on credentials has widened the economic and political gap between the educated and non-educated (Sandel, 2020). Approximately two-thirds of people in the United States, who do not have a college degree, remain underrepresented in our democracy. Most political and corporate leaders hold credentials. Sandel argues that the uncredentialed are the current underclass.

Schnellert et al. (2019) suggested that higher education has not welcomed the disabled population, and those in power must examine their positionality to open doors in the college community. University culture and the tenure track system of higher education normalize ableness. Schnellert et al. describe disability services and the disabled as "the absent other" (para. 12), often marginalized from approaches toward inclusivity. Due to feelings of separation and of being an outsider, increased anxiety about these issues leads to overwhelming insecurity and an impression of inability (Cleveland & Crowe, 2013; D'Alessio & Banerjee, 2016). Since the funding model for state higher education institutions shifted to hold institutions more accountable for admitting students and supporting their acquisition of a degree (Capstick et al., 2019), proper transition, including coaching-like support, may help students address academic deficits and improve integration.

CHAPTER II

Review of the Literature

Introduction

The dissertation literature review investigates how disability services assist students transitioning in, through, and out of higher education. The research discusses various attributes and behaviors of at-risk students—the importance of student engagement, including self-efficacy, self-determination, and self-regulation for students with disabilities. Then narrows to disability research and coaching studies. The themes discussed allowed for understanding the variety of challenges facing the disabled and the services offered by disability offices in higher education institutions.

At-Risk Students

Entrance into postsecondary education poses challenges for many at-risk students. At-risk students face a wide array of barriers, including, but not limited to, low socioeconomic status, parenting obligations, difficulty with transportation, inflexible work schedules, first-generation status, minority background status, under preparation in high school, and a disability diagnosis (Holzer & Baum, 2017). Research suggests that at-risk students have inadequate information about how to manipulate higher education systems. Due to the lack of information, they are uncertain of the results their time, energy, and money spent in college will gain for them. At-risk students are unaware of the steps needed to graduate on time. Many of those who default on their student loans do not hold a credential or degree (Holzer & Baum, 2017, p. 12).

Negative self-perception and low academic expectations begin early for at-risk students. Half of the students from the lowest income quartile enroll in the community college system instead of a four-year university (Holzer & Baum, 2017; Jepsen et al., 2010). Research shows that the free and reduced lunch program beneficiaries in high school had a lower self-predilection of college graduation than non-free and reduced lunch program recipients (Schechter, 2018). Families with higher incomes were "more likely to have children who were successful in the educational or vocational areas" (Weiss & Rohland, 2015, p. 346). Also, students in the upper-income quartile are less likely to borrow money to pay for postsecondary education (Holzer & Baum, 2017).

Newman and Madaus (2015) found that approximately 36% of students with a disability attended two-year institutions, more than twice as likely as peers. Students with disabilities often begin their college careers in the community college system to gain confidence or take prerequisite classes. However, "the likelihood of completing a bachelor's degree is lower among those who begin at a community college than among similar students who begin at a four-year college or university…a relatively small percentage of these students successfully manage the transition [to a four-year college], especially in the face of insufficient academic or career counseling" (Holzer & Baum, 2017, p. 47). Poignantly, Lipscomb et al. (2017) found that parents did not think their high school special education student(s) would find success in college, and their children thought the same. Starting college and leaving without completing a degree has long-term, significant implications for job opportunities and earnings (Nowicki & US Government Accountability Office, 2018).

Confusion and possible misinformation regarding financial aid, beneficial career options, and major selection may lead students to enroll part-time. Students who enroll part-time have much lower completion rates than full-time students (Holzer & Baum, 2017; Kentucky Council on Postsecondary Education, 2017). Generally, part-time students work more hours at off-campus jobs (Jepsen et al., 2010). Furthermore, part-time enrollment may prevent student buy-in leading to a lack of social capital and missing out on opportunities such as participation in study groups or other learning communities (Dyer, 2018; Schwartz et al., 2018).

Low-threshold Universities

Generally, students with higher incomes attend better-resourced institutions (Holzer & Baum, 2017). High resource colleges, such as private colleges, flagship institutions, or four-year universities, provide more institutional support for students, such as tutoring, counseling, or mentoring. The combination of student support services and positive peer and cultural influences (increased social capital) can improve performance in these college communities. Conversely, Holzer and Baum (2017) indicated that at-risk students concentrated at low threshold universities such as community colleges or other non-flagship public universities. As less expensive options, student supports are fewer and may not be as easy to access. Thus, universities that typically provide the least amount of support attract the highest concentration of students who need the most support.

Jepsen et al. (2010) tracked students who attended institutions in the Kentucky Community and Technical College System (KCTCS) and found that family and student earnings while in college positively correlate with continued attendance. Researchers

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noted that a 1% increase in earnings increased the likelihood of re-enrollment by 0.856% in males and increased re-enrollment in females by 1.077%. However, student support in the form of advising remained critical to re-enrollment. Uncertainty about which classes are needed for a degree and needed to transfer to four-year institutions caused frustration and uncertainty about their continued efforts.

In 2017, the Kentucky Council on Postsecondary Education found the six-year bachelor's degree graduation rates for public four-year institutions in the United States at 59%, higher than Kentucky's average of 54.5%. As a reaction to lower than standard U.S. graduation rates, the Kentucky state government measured graduation rates and degree completion in pre-determined and needed occupational fields (Kentucky Council on Postsecondary Education, 2018). Therefore, as Benson and Boyd (2018) noted, public institutions are now more responsible for graduation rates in the current economic climate of decreased state and federal financial support.

Transfer Students

According to Kentucky's Student Feedback Report, Eastern Kentucky University (EKU) hosted 12% of Kentucky's KCTCS transfers in 2010-2011, and by 2014-2015, EKU received 16.4% (958) transfer students (Kentucky Council on Postsecondary Education, 2017). EKU attained most of its transfer students from Bluegrass Community and Technical College (BCTC). More transferred from the Kentucky Community and Technical College System than any other 4- year public institution in Kentucky. Approximately 78% of EKU's transfer students persisted in their second year, and the four-year graduation rate for the 2012-2013 cohort was 41.4%.

As Sandel (2020) noted, high attrition rates are vastly complicated and ultimately problematic for society, institutions, and individual students. Tax dollars subsidize grant programs for eligible students; these funds are underutilized if students do not complete a certificate or degree program. For example, many community college students who plan to transfer to a public four-year institution do not formally request and obtain their associate's degree because they ultimately plan to seek a bachelor's degree (Holzer & Baum, 2017). If they do not request the associate degree and subsequently do not complete their bachelor's, they remain without any degree. In addition, these students may now owe money and have also lost time in the job market.

Non-completers are likely to experience lower wages over their lifetimes and typically default on their federal student loans (Sandel, 2020). Each student represents an investment in recruitment and student services, but the loss of human potential and human capital intensifies when a student does not matriculate. Consequently, students who do not graduate with an associate or bachelor's degree, especially those with student loans, place themselves at a long-term disadvantage.

General Disability Information

People diagnosed with a disability are less likely to have completed a bachelor's degree or higher than those with no disability (U.S. Bureau of Labor Statistics, 2021). Among both groups (people with and without a disability), those who attained higher levels of education were more likely to be employed than those with less education. In 2020, people 25 years or older with a disability were much less likely to be employed full-time than their counterparts with no disability. Nineteen percent of undergraduates reported having a disability in 2015-2016, 19% for males and 20% for females (U.S.

Department of Education, National Center for Education Statistics, 2021). The *Digest of Education Statistics* (National Center for Educational Statistics, 2020) reported higher disability enrollment for nontraditional and veteran students.

Lefdahl-Davis et al. (2018) noted that approximately one-quarter of all enrolled students do not return for their second year of college. Moreover, there is strong evidence that roughly two-thirds of students who received services as students with a disability in high school do not disclose their disability in either two or four-year postsecondary institutions (Newman & Madaus, 2015). Obstacles leading to attrition included low socioeconomic status, first-generation status, underrepresented racial or ethnic minority status, or identification as a student with a disability (Huber et al., 2016; Lefdahl-Davis et al., 2018; Shepler & Woosley, 2012).

There are minimal studies examining graduation rates comparing students with disabilities to the general population (Carroll et al., 2020). In addition, there is a deficiency of data collection and tracking across the United States of the impact disability service intervention(s) have on student persistence (Weyandt & DuPaul, 2008). This lack of trackable and quantifiable information impacts programming, targeted services, and budgets, affecting students who may benefit from such research.

In one sample study, Wessel et al. (2009) compared the six-year graduation rates between 81 students with apparent disabilities (physical disabilities, deafness, or blindness), and 92 students with non-apparent disabilities (ADHD, learning disabilities) to 11,144 students without disabilities, using an ANOVA. This research found little difference between the three groups and similarities between graduation rates. However, the mean number of years it took to graduate was longer with the presence of a disability.

In a follow-up study, students with disabilities, when compared to students without disabilities (n=32,000), took longer than the standard four years to graduate (Knight et al., 2018). By the end of the sixth year, the graduation rate for students with disabilities (59.1%) exceeded that of the general population (56.1%), with no statistical difference.

Koch et al. (2018) found that when holding students' demographic and in-college predictors constant, having a disability increased the odds of non-persistence. In an earlier study, Koch et al. (2016) found that 24% of students with psychiatric disabilities and 28% of students with LD/ADHD attained bachelor's degrees. Yet, Shepler and Woosley (2012) argued that students with disabilities were more likely to drop out during their fourth or fifth year of college.

Newman et al. (2020) examined the persistence rates of college students registered with disability services compared to retention rates of disabled students who did not register with disability services. The authors claimed that approximately 65% of students with a disability do not disclose their disability. Students who accessed support only available to the general population (for example, tutoring labs or writing assistance) were more likely to succeed. Using propensity score modeling, researchers found that 79% of students who accessed commonly available supports persisted compared to those who accessed disability-related supports only. Disability-related supports were not significantly related to persistence.

Mamiseishvili and Koch's (2011) conclusions based on the Beginning Postsecondary Students Longitudinal Study found that students with disabilities who used available supports such as tutoring centers, advisors, and faculty resources were likely to reenroll their sophomore year. Freshman to sophomore fall to fall retention is a sign of

academic and social integration (Tinto, 1997). Although freshman to sophomore retention does not guarantee a student's graduation, it is a sign of successful transition and may predict future graduation. Fall to fall retention rates measure the percentage of first-time undergraduate students who return to the same institution the following fall (Irwin et al., 2021).

The National Center for Education Statistics found that for first-time, full-time degree-seeking undergraduate students who entered 4-year degree-granting institutions in fall 2018, the overall fall-to-fall freshman to sophomore retention rate in 2019 was 81 percent (Irwin et al., 2021). Retention rates were highest at the most selective institutions, institutions with large endowments, and institutions where the majority of students attended classes full-time, were of traditional age (18–23), and resided on campus. However, at the least selective public 4-year institutions, fall-to-fall retention was 61 percent. There was a marked decline in the first-year persistence rate in fall 2020 after remaining stable for four years. The overall persistence rate dropped to 73.9% for fall 2019 beginning college students, its lowest level since 2012 (Sedmak, 2021).

Universities attempt to address barriers by providing orientation courses, living-learning communities, counseling services, increased access to scholarships, advising, and tutoring services (D'Alessio & Banerjee, 2016). Even in light of these support services, some at-risk, first-time students suffer from what amounts to "academic culture shock" (C. Robinson & Gahagan, 2010, p. 26) due to coping with independent living and grappling with significantly different academic expectations. Although postsecondary students with disabilities generally come from middle-class backgrounds with college-

educated parents and are often socially integrated into the college community (Newman & Madaes, 2015), researchers rarely compare their success rates to non-disabled peers.

Transition during Emergent Adulthood

Support for the transition needs from high school to postsecondary education remains well established through federal law. As such, it is necessary to support college students with disabilities to attain certifications or degrees. IDEA's guidelines for transition services align with the concepts of self-efficacy, self-advocacy, and self-determination by setting appropriate, realistic, and personally meaningful post-high school goals (Margolis & McCabe, 2004; Parker et al., 2018).

Arnett's (2000) research on emergent adulthood views the period with five defining characteristics, identity exploration, instability, self-focus, feeling in-between (due to the transition between childhood and adulthood), and a time of possibilities and optimism. The transition to higher education provides context to promote all five facets of emerging adulthood. If emerging adulthood is when questions about life purpose and direction are prioritized, higher education allows students the opportunity to become more aware and possibly more self-determined. The emerging sense of identity in college is complex due to choice of major, persistence to degree completion, and relationship formation, in addition to (for some) the ramifications of self-disclosure of a disability (Hadley, 2018). Chickering and Schlossberg, in their first-year orientation textbook, *Getting the Most Out College* (2002), suggested that emerging adult students take advantage of support systems and programs to move in, through, and out of college (Chickering & Reisser, 1993, p. 444).

Arnett (2000) noted that emerging adults enrolled in four-year universities are typically from a higher socioeconomic status, 85% white and 53% female. More recently, the National Center for Education Statistics (Radwin et al., 2018) reported that 17.6% of undergraduates aged 18 to 23 reported they had a disability. Of recent high school graduates 16 to 24 years old, 59.3% of males and 66.2% of females attended college (U.S. Bureau of Labor Statistics, 2021). The combination of challenges presented by emergent adulthood, transition, mental health concerns, and the diagnosis of a disability render college students with disabilities an at-risk population.

In an analysis of fifty years' worth of articles detailing advocacy on behalf of college students with disabilities from 1951 to 2015, Gelbar et al. (2020) found 38 articles on self-determination, 19 on self-efficacy, and 12 referencing self-management or self-regulation. They found twenty different explanations of self-determination represented in the higher education literature. Although Gelbar et al. (2020) pointed out a severe lack of conformity in the field, the researchers' review attempts to legitimize the concepts by defining components in the disability literature which support these students' transition in a meaningful way.

Code (2020) identified four cornerstones of personal agency: intentionality, self-determination, self-regulation, and self-efficacy. The research on self-efficacy, self-determination, self-regulation, and social integration stresses the importance of agency or control over one's life direction. Although a disability diagnosis indicates an impairment in one or more life areas, a person asserts agency over their situation in a higher education setting and throughout their lives (Peng & Wang, 2020). Developing self-determination skills, self-efficacy, self-regulation, and social integration skills are critical

to navigating the transition to, through, and out of higher education to avoid feeling marginalized (Schlossberg et al., 1989).

Bandura's Self-efficacy Theory

Bandura (1995) defined self-efficacy as the interactions between person, behavior, and the environment; he claims that self-efficacy contributes to human motivation (p. 3). Scholars have backed his claim that the greater a student's self-efficacy, the greater their persistence, effort, and academic motivation and outcomes (Klassen, 2002). Bandura et al. (2001) asserted that attainable academic goals influence students' efficacy. Conversely, students with low self-efficacy doubt their capability, set humbler goals, and avoid circumstances that could result in failure. A student's self-perception, academic or otherwise, influences how they think, feel, behave, and motivate themselves (Costello & Stone, 2012).

Bandura et al. (2001) stated that a student's success is directly impacted by their personal beliefs in the possibility of success or failure and is influenced by several outside entities, such as the student's family, the organization's goals, and organizational culture. Many forces influence the student by swaying and ultimately defining the students' aspirations. Nevertheless, self-efficacy adds another dimension, "perceived self-efficacy influences the level of goal challenge people set for themselves, the amount of effort they mobilize, and their persistence in the face of difficulty" (B. J. Zimmerman et al., 1992, p. 664). In addition, Zimmerman et al. claimed that self-efficacy influences self-regulation, meaning the amount of time and energy a person commits to a task.

Lipscomb et al. (2017) mentioned the impact of family philosophy regarding college, with accompanying self-depreciation, can adversely affect self-efficacy and divert otherwise qualified students from pursuing more challenging majors or taking courses that would advance their skillset. Low self-efficacy hampers student assimilation on college campuses. The stigma that sometimes accompanies a disability diagnosis may contribute to self-depreciation and cause a person to underestimate their options and achievements (Klassen, 2002). Support from faculty, staff, and peers provides positive feedback and encouragement for those struggling in a college setting. Students with low self-efficacy may be late to figure out they need help, do not know whom to ask, or know what questions to ask once they find a person who could assist.

Frazier et al. (2007) found that students with ADHD and their parents demonstrated predictive validity; when asked, they accurately predicted their grade point average for the first year in college based on self-efficacy assessments. However, despite this influence, students with disabilities' self-efficacy is malleable and reciprocally influences academic success and persistence (Jenson et al., 2011). Costello & Stone (2012) claimed it is "vital for higher education professionals such as disability coordinators, counselors, advisors, and support services staff to individualize learning experiences for each student" (p. 122).

Unfortunately, some faculty do not believe in the validity of nonvisible cognitive disabilities such as ADHD or learning disabilities (Association for the Study of Higher Education, 2013), which causes reluctance among this population to disclose their accommodations (Grimes et al., 2017). Academic coaching is a one-on-one service that does not necessarily require disclosure to college professors or the disability service

office but encourages self-efficacy and self-determination (Getzel, 2014). Latham (2007) examined how exposure to a life coach influenced the client and impacted success. Although the article focused on coaching in an industrial/organizational setting, Latham explained that a coach's belief in another's ability, as either a fixed or changeable variable, will impact the relationship.

Self-determination Theory

The originators of self-determination theory, Ryan and Deci (2017), defined self-determination as "the capacity to choose and to have those choices be the determinants of one's actions". Ryan and Deci (2017) discussed three facets of self-determination. The first, autonomy, is the ability to choose actions and a sense of choice. Second, competence is the ability to manage and control oneself effectively. Finally, relatedness is the extent one feels understood, connects to, relates to, and cares with and for others, which is very closely related to Tinto's (1997) concept of social integration. Field and Hoffman (1994) previously defined self-determination as "one's ability to define and achieve goals based on knowing and valuing oneself" (p. 4). Gelbar et al. (2020) found the Field and Hoffman (1994) definition the most widely used in the research literature on higher education and disability services.

Self-determination as a movement began in the 1980s with federal funding for the Office of Special Education and Rehabilitative Service's (OSERS) initiative to look at the outcomes of first-generation young adults exiting the K-12 special education public school system. Former special education students were interviewed in their mid-twenties, some still living in their parents' homes or unemployed (D. R. Parker, personal communication, March 5, 2021). Researchers noticed that the central answer in their

independent interviews was that teachers, parents, athletic coaches, and other authority

figures were well-meaning, but they did not allow these students to take risks (Ward,

2005). They did not encourage children with disabilities to attempt challenging pursuits

or encourage them to consider what it would take to accomplish their goals or fulfill their

dreams.

Ward (2005) found that those who left school as self-determined students were

likely to live independently, work at jobs offering better pay, and self-advocate.

Researchers concluded that the way authority figures showed up and reacted to and with

students was centrally important. How professionals and parents think about students

shaped their decision-making and could improve self-efficacy and boost self-

determination. Self-determination emphasizes internal rather than external motivation.

> Self-determination pertains broadly to youths' beliefs that they can control and improve the quality of their own lives. Disability experts have shown that self-determination, which combines the ability to act independently with a sense of self-direction, is important for youth development and students' post-high school outcomes (Lipscomb et al., 2017, p. 45).

Self-determined students consider options and trust their decisions (Klassen, 2002). Even

overconfident or misguided decisions deemed incorrect in hindsight are reframed as

opportunities for growth and learning. This method of purposeful reflection encourages a

growth mindset (Dweck, 2008).

According to Parker and Boutelle (2009), academic coaching reinforces and

augments self-determination through questioning techniques that support students'

cognition. Conversations with parents, faculty, and staff provide opportunities for

personal reflection, which supports the premise that adult students can determine their

path when given options and time to consider. Self-determination theorists view college

students as innately growth-oriented and capable of exploring their strengths, weaknesses, and motivation (Spence & Oades, 2011).

Although students with disabilities may have impaired executive function, self-determination was a success factor for students with ADHD (Getzel, 2014; Getzel & Thoma, 2008). Parker and Boutelle (2009) combined a coaching model with motivational interviewing, an inquiry approach, which places value on emergent adults' opinions and ability to parse options rationally. This inquiry approach encourages self-determination, gives parents and professionals permission not to have all the answers, and allows students to identify possible solutions without giving advice or lengthy explanations.

Self-regulated Learning

Zimmerman (2010) defined self-regulated learning as the degree to which students are metacognitively, motivationally, and behaviorally proactive regulators of their learning process. For some self-regulation researchers, the environment stimulates individuals' awareness and their regulatory responses. In contrast, those researching metacognitive self-regulation look to the individual's thoughts as the initiator or trigger for subsequent judgments or evaluations (Dinsmore et al., 2008). Metacognitive self-regulation involves thinking about one's thought processes when learning or studying. Cognitive self-regulation is somewhat didactic and could include homework, notetaking, tutoring, or in-class instruction and is taught through study techniques or strategies. Affective self-regulation keeps motivation high towards tasks and goals and is addressed in counseling or coaching. Students with a high degree of self-regulated learning use self-efficacy and self-determination to establish and accomplish manageable goals (Howlett et al., 2021).

Zimmerman and Schrunk (2011) indicated that students who exhibited stronger self-regulatory skills in academic endeavors made better use of strategies, used resources, and had higher achievement levels. During emergent adulthood, the developing prefrontal cortex can hinder self-regulation, which is an issue in postsecondary education when the impetus of learning information is placed squarely on the student's shoulders. According to Weyandt and DuPaul (2008), the ability to self-regulate by sustaining attention is highly predictive of a higher college grade point average.

Research has shown that students with learning disabilities and ADHD have difficulty with self-regulation due to low self-efficacy and, in some cases, a tendency toward procrastination (DuPaul et al., 2018; Reaser et al., 2007; Weyandt & DuPaul, 2008). These students exhibit less agency over their learning, using fewer metacognitive strategies than non-learning disabled students. Students with ADHD-like symptoms can often grasp the academic content but lack the self-regulation to follow through with reading and assignment completion (Parker & Boutelle, 2009).

Social Integration

Tinto (1997) found that social and academic integration best predicted retention and higher education success. Holzer and Baum (2017) reiterated this concern, stating that at-risk students who lack social capital in a university setting often feel like interlopers. Those with disabilities are sometimes stigmatized by faculty, staff, or peers (Grimes et al., 2020; Newman et al., 2019; Troiano et al., 2010). Those lacking social capital miss out on opportunities that could contribute to their success, and feelings of separation may lead to student non-persistence.

Newman et al. (2019) discerned that only 35% of students who received special education services disclose their disability to the university. Students with disabilities' graduation and persistence lag behind those in the general population (Sanford et al., 2011). Due to the large discrepancy, Newman et al. (2020) investigated whether unregistered students with disabilities accessed resources open to the general student population, such as tutoring, counseling, and other learning support centers. If so, they asked, did this access result in increased persistence? Using data from the National Transition Study 2 in a quasi-experimental design, those with a disability who accessed support available to the entire student body were more likely to experience positive postsecondary outcomes at two and four-year universities. Thus, students with disabilities' perceptions of the on-campus environment, culture, and campus involvement were significant factors in predicting their social integration and possible success.

Weyandt and Dupaul (2008) suggested that students with ADHD have difficulty with interpersonal relationships. Basic academic behaviors, such as study skills and class participation, allowed for a better explanation of students with disabilities' self-reported academic integration. Students who felt socially accepted were more likely to persist and graduate than those who did not (Tinto & Pusser, 2006). Shepler and Woosley (2012) stated that valuable working relationships with campus personnel, such as disability services professionals, can deepen a sense of connection to the university. "Feeling connected to university professionals and included in social groups is likely to lead to higher levels of institutional satisfaction and perception of the campus environment" (Shepler & Woosley, 2012, p. 46).

Although students with disabilities represent many diverse subpopulations, they are often not included in diversity initiatives (Leake & Stodden, 2014). Furthermore, Newman et al. 2020 found that accessing traditional disability-related supports (accommodations) did not significantly affect perseverance. The literature on social integration for students with disabilities is limited and relegated to disability-related journals (Leake & Stodden, 2014). Leake and Stodden add that social integration is omitted from the ADA and other civil rights legislation. If social support and networks are valuable for others, they may be particularly vital to people with visible and nonvisible disabilities in light of the challenges they are likely to face (Mamiseishvili & Koch, 2011).

Importance of Relationships and a Sense of Belonging

Belonging is fundamental to human motivation. Maslow defined belonging as "being at home in the world, of having a place in the group" (Maslow, 1942, p. 334). Strayhorn, who has researched belonging in historically marginalized groups in higher education institutions, considers belonging "a basic human need, a fundamental motivation, sufficient to drive behaviors and perceptions" (Strayhorn, 2019, p. 9). Strayhorn maintains that students' feelings of isolation, loneliness, or marginalization can undermine their academic performance to the point that "students who do not feel like they belong rarely stay in college"(Strayhorn, 2019, p. 2). Belonging is linked to individual perceptions of connection with family, faculty, staff, and peers suggesting the importance of community, support, membership, and acceptance in a higher education setting. Although Strayhorn emphasized peer relationships, feelings of community throughout the campus impact student persistence.

Skeens (2020) maintained consistent relationships with faculty and staff decreased anxiety, and supported student learning. Through three qualitative case study interviews, Skeens investigated how interpersonal, academic, and systemic dynamics impacted disabled college students. Skeens found that students who participated in the interview process expressed less perceived isolation. The quality of services received by disability staff was noted as necessary but deemphasized compared to the significance of positive peer and faculty relationships and the need for dependable and steady contact with disability services staff.

Moriña (2019) asked students registered with university disability service offices to recommend inclusive educators. After collecting recommendations, interviews from 119 educators across 10 Spanish universities determined that high-quality relationships positively impacted student success. Personal relationships precipitated effective learning among all students, although particularly at-risk learners. Conversely, Moriña found that students with disabilities who did not feel they had a good relationship with faculty were more likely to stop out or drop out. Dyer (2018) claimed that faculty members' willingness to provide disability accommodations directly impacted students' success.

Swartz et al. (2005) suggested the relationship and variables that a coach brings to a student's college experience should be further explored through well-designed studies. Swartz and colleagues examined factors that facilitated transition and successful degree completion of students with mental health diagnoses. Although not a study, the authors compiled information about emerging practices to facilitate persistence from the literature. Swartz and colleagues mentioned that traditional college-age students often first experienced mental health issues during emergent adulthood college years.

Supported education programs such as coaching could link mental health services, career counseling, mentoring, classroom accommodations planning, suicide prevention, and advocacy for the student. Koch et al. (2017) called for additional case management to support supplemental education services.

Research indicates intensive advising, faculty relationships, and peer-mentoring improve retention, especially during the first year when students are most likely to drop out (Kuh et al., 2008). Some research suggests that social integration has a more substantial positive influence on persistence than academic integration (Mamiseishvili & Koch, 2011). Helping those in transition identify faculty and staff whom students can depend on and are concerned and interested in their experience provides additional social capital. Academic success coaching in the university setting might positively impact retention in a four-year college environment by establishing a proactive, beneficial relationship with at-risk students (Dansinger, 2000).

Motivational Interviewing

One way to cultivate trust and safety through partnering with the student is motivational interviewing. Motivational interviewing taps into a person's internal motivation by asking open-ended questions and listening carefully to answers. Developed by two psychologists, William R. Miller and Stephen Rollnick, motivational interviewing is a client-centered counseling technique for eliciting behavior change by helping clients explore and resolve uncertainty through questioning (Grant, 2021). Starting with the student's agenda for the session is an effective way to establish rapport and focus on the student's priorities (Fried & Irwin, 2016).

Motivational interviewing uses engagement to build trust. Then identifies what needs to change, discovers why the change is needed, and explores a plan to change (Peng & Wang, 2020). To accomplish this, the interviewer reiterates the client's answers and asks more clarifying questions, then guides them toward a client-created plan of action. Grant (2021) contended that the way people listened impacted the client. Non-judgmental, empathetic, and attentive listening leads people to self-awareness. The conversation establishes a relationship among equals. Questioning with a motivational interviewing technique may help college students become more aware of their strengths and limitations by asking about priorities, their plan for the week, and how they want to accomplish their plans.

Ramsay and Rostain (2006) used a lack of progress or adverse events as springboards for student discussion. The perceived negative events were viewed as opportunities for learning, not as non-compliant behaviors or personal failures. Perceived adverse events facilitated discussion toward possible routes to improve the situation. Ramsay and Rostain indicated that talking through problems helped students recognize gaps in their learning or problems with their plan. Effective coaches carefully ask questions rather than make suggestions (Swartz et al., 2005). The questions serve to clarify goals, consider approaches to study skills and time management, and increase knowledge regarding resources related to academic planning (Robinson & Gahagan, 2010).

Grant (2021), a proponent of motivational interviewing, states, "I do not believe it is my place to change another person's mind. All I can do is understand their thinking and ask if they are open to some rethinking" (p. 206). Similarly, Parker and Boutelle

(2009) recommend active listening and encouraging self-discovery by asking reflective questions to promote self-determination. Motivational interviewing is interesting because the person asking the questions is not viewed as an expert with the ability to solve problems. Instead, the coach/interviewer is simply an interested person who asks thought-provoking questions that possibly inspire and help direct the client to investigate their problems. Motivational interviewing encourages students to address their choices metacognitively. As emergent adults grappling with college classes and seeking a sense of belonging, questioning to promote self-reflection could be helpful.

Disability Service Providers and Academic Adjustments

Newman and Madaus (2015) found that fully 50% of students who received special education services in high school reported they did not have a disability in college. Reasons for not acknowledging and underreporting a disability are multifaceted and may include perceived stigma from peers or professors (Grimes et al., 2017, 2020), wanting to try college without utilizing disability services (Newman et al., 2016), and a lack of knowledge about the existence of college services for students with disabilities (Lightner et al., 2012). Also, those with nonvisible disabilities sometimes think they outgrow their conditions (Sanford et al., 2011). Cawthon and Cole (2010) noted that university culture is vital in attracting students to the disability service office without fear of stigma. Professors or advisors who encourage students to seek services more often willingly seek assistance and perceive less stigma.

People with blindness, autism, multiple disabilities, and deafness are more likely to receive disability-related supports than those with nonvisible disabilities such as learning disabilities or psychiatric disabilities (Newman & Madaus, 2015). Initially,

younger students report registering for services under pressure from their parents, but

many do not follow through with obtaining or using academic adjustments (Sanford et

al., 2011). Whereas 98% of eligible students received accommodations in high school,

around 35% registered in post-secondary institutions, and less than 1 in 5 students used

their accommodations at the post-secondary level (Newman & Madaus, 2015). The

drastic reduction is evidence of the lack of enthusiasm from the student.

Skinner (2007) indicated that students who received accommodations were more

likely to succeed in a post-secondary environment. Newman et al. (2019) supported

Skinner's assertion that those who had accessed support were more likely to have

positive post-secondary school outcomes than those who did not. College students are

legally responsible for submitting their disability documentation from a medical or

mental health provider. Generally, the documentation guidelines are similar for all public

institutions. They include the evaluator's credentials, identification and severity of the

disability, the diagnostic method, the functional limitations, current, and past

accommodations, and recommendations for accommodations in the college setting

(AHEAD, Association on Higher Education and Disability, n.d.).

Upon receiving documentation, disability service staff read, evaluate, and

determine whether the documentation is appropriate, then discuss suitable

accommodations with the student. Students should not negotiate with professors for their

accommodations but should communicate with professors regarding their

accommodations. If a problem or disagreement arises, disability service coordinators can

advocate for students (Wessel et al., 2009). The initial appointment and advocacy role

provide a valuable foundation for relationship-building with the student.

Mamiseishvili and Koch's (2011) examination of the Beginning Postsecondary Students Longitudinal Study found accommodations such as course substitution, readers, and note-takers positively impacted student persistence into their second year of college. Extended time on tests and extended time on assignments are the two most widely received accommodations in Newman and Madaus's (2015) sample of over 3,000 students. Of the 22% who received accommodations at a 4-year institution, 20% used extended test time (the most commonly received accommodation), and 3% used extended time on assignments (the second most reported). The National Longitudinal Transition Study reported that 12% of students receiving support in the form of an academic adjustment or accommodation in post-secondary settings rated the assistance as "not very" or "not at all adequate;" and an additional 33% rated these supports as only "somewhat useful" (Sanford et al., 2011, p. 32).

Koch et al. (2018) conducted a quantitative examination of data from the Beginning Postsecondary Students Longitudinal Study, examining the persistence outcomes of 7,750 college students with and without learning disabilities, including attention deficit hyperactivity disorder, learning disorders, and psychiatric disorders. These three disabilities represent the largest and fastest-growing diagnoses and denote 64% of those registered with university disability services. Regression analysis confirmed that disability status significantly contributed to non-persistence more than the combination of other background characteristics and in-college experience factors (which included academic and social integration).

Brief Introduction to Disabling Conditions

The U.S. Department of Education (Davis, 2020) lists twelve disabilities; autism, deaf/blindness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, other health impairment, orthopedic impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment. Most students register with invisible disabilities, which are not noticeable or visible to others. Fewer than 10% of students have physical disabilities.

Disability Service professionals generally have a broad knowledge of disabilities, including attention deficit hyperactivity disorder (ADHD), learning disabilities, Autism Spectrum Disorder (ASD), and many mental health and medical issues. However, even students with the same disability may not manifest the disability in the same way. Therefore, functional limitations and accommodations may differ for students with the same diagnosis (Bellman et al., 2015). Every individual is unique due to various background experiences (familial and educational), the manifestation of the diagnosis, and other contributing factors.

The Center for Disease Control (2020) reports autism spectrum disorder (ASD) as the highest growing disability in higher education. Although often academically able to complete coursework, these students struggle with social skills, executive functioning, and study skills (Accardo et al., 2019). Students with ASD, as part of the syndrome's diagnostic criteria, exhibit particular difficulty with changes in routines, developing relationships, and socio-emotional reciprocity (American Psychiatric Association, 2013).

About 35% or 17,500 students with Autism Spectrum Disorder attended college six years after completing high school (Shattuck et al., 2014). Of the autistic youth who attended college, 34% chose a major in science, technology, engineering, or math

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(STEM). Henninger and Taylor (2012) considered students with Autism Spectrum Disorder underserved in the area of transition because high schools generally do not address non-academic skills, as they are not part of the core content standards. Housing accommodations provide some support, but disability accommodations are difficult to apply in residential and social situations.

The largest disability category in higher education is in the area of specific learning disorders. Newman and Madaus (2015) stated that approximately 67% of identified students with disabilities were diagnosed with learning disorders. There are three types of specific learning disorders, impairment in reading (either accuracy, fluency, or comprehension), impairment in writing, and impairment in mathematics (American Psychiatric Association, 2013). According to the DSM-5 (2013), their skills are measurably and consistently below grade level and often confirmed through their academic history, psychological evaluation(s), and grades. Besides lower than grade-level skills, a noticeable academic deficit cannot be accounted for by another disability or a previous adverse or traumatic situation. Studies have indicated that students with learning disorders often graduate behind their peers (Koch et al., 2014, 2016, 2018). In addition, students with learning disorders also have difficulty with regulation, i.e., motivation and time management (Showers & Kinsman, 2017).

Students with Attention Deficit Hyperactivity Disorder (ADHD) are an estimated 2 to 8% of the college population (Anastopoulos et al., 2018) and up to 25% of those registered with disability service offices across higher education institutions in the United States, the second-largest disability category registering for college support services (Barkley, 2011). ADHD is a lifelong neurological developmental disorder that affects

executive function, including working memory, organization, and planning for long and short-term goals (American Psychiatric Association, 2013). A study by Barkley (2011) stated that 9.1 % of young adults with ADHD graduate from college, compared to 60.6% of the non-ADHD control group.

Studies have found that college students with ADHD demonstrated lower grades and test scores than control groups, are more likely to withdraw from a class, have less adequate study habits, subpar social integration, and have difficulty estimating time constraints (DuPaul et al., 2018; Prevatt & Young, 2014; Weyandt & DuPaul, 2008). These areas impact their persistence when attempting to complete tasks (Ahmann et al., 2018). Prevatt and Levrini (2015) describe ADHD as an "inability to do what is intended." Interestingly, DuPaul et al. (2018) found that ADHD college students often perceive that they work harder than non-ADHD peers. Students with ADHD have difficulty realizing they are struggling, accepting they need help, and seeking out help. Additionally, Weyandt and DuPaul (2008) reported that college students with ADHD were at greater risk of academic difficulties and psychological distress compared to students without disabilities.

Mental Health Disabilities

The American College Health Association (2019) found that 10.1% of college students disclosed a mental health condition to university officials. Of those students, 24.3% reported receiving treatment for anxiety, and 20.0% reported treatment for depression. There is a clear and steady increase in college students experiencing mental health issues such as depression and anxiety (National Council on Disability, 2017). Mental health conditions initially manifest or are worsened by the stress of college life

(McEwan & Downie, 2019); fortunately, most universities provide mental health support in counseling centers.

The Healthy Minds Survey interviewed students from more than 400 universities across the country and found that 39% of students screened positive for depression and 34% for anxiety (Eisenberg et al., 2020). Another study claimed that as many as 86% of students with psychiatric disorders withdrew from college, compared to 45% of students in the general population (Salzer, 2012). Anxiety, stress, and depression can exist as coping mechanisms or comorbid conditions for students with Autism, ADHD, and learning disabilities (Anastopoulos et al., 2018). Accordingly, nationwide, college students with mental health diagnoses are increasingly requesting accommodations (National Council on Disability, 2017).

Aside from academic adjustment, these students' primary resource is mental health counseling, either on or off campus. Evidence shows that life coaching positively impacts mental health, reduces anxiety, stress, depression, and increases self-efficacy, well-being, and persistence (Govindji & Linley, 2007; Lancer & Eatough, 2018). Even though life coaching does not explicitly focus on mental health, studies have shown that life coaching improves mental health functioning. Improving overall mental health and learning to manage stress and anxiety can improve academic performance (Fried & Irwin, 2016).

Given the research, life coaching could provide a supplemental, positive resource for students experiencing mental health issues, regardless of the disability diagnosis. Lancer and Eatough (2018) proposed coaching as a possible preemptive measure for overburdened university counseling centers. Zwart and Kallemeyn (2001) conducted a

peer-coaching study with 20 postgraduate students in an early coaching study and found that depression, anxiety, and stress were reduced through coaching. Students viewed coaching as a form of catharsis; although coaching is not therapy and not necessarily conducted by a certified counselor, students report it can be therapeutic.

Academic Coaching

Coaching offers student support and enables those who cannot satisfactorily cope with the transition to post-secondary education by developing long and short-term plans and accessing resources. Life coaching positively impacts life satisfaction, self-efficacy, depression, anxiety, and stress (Lefdahl-Davis et al., 2018). According to Robinson (2015), academic success coaching is "the individualized practice of asking reflective, motivation-based questions, providing opportunities for formal self-assessment, sharing effective strategies [for increased student success], and co-creating a tangible plan [with the student]" (p. 126).

There are many coaching certifying bodies and programs, most notably the International Coaching Federation. These certifying bodies stress the importance of receiving specific training in life coaching, ADHD coaching, academic coaching, or other training to target specific populations, initiatives, and priorities. Also, university psychology programs are now offering certifications in coaching (Prevatt, 2016). The core competencies of the International Coaching Federation established professional standards, which are paraphrased below (International Coaching Federation, 2021).

1. The coach handles the client's information with confidentiality and honesty, establishing the definition of coaching and how it differs from psychotherapy. The coach will refer the client to other professionals when other supports are needed.

2. The coach develops and maintains an interested, curious, and flexible mindset. The conversations are client-centered, but coaches acknowledge when outside sources are needed. Coaches realize that clients are responsible for their choices.

3. Coaches partner with the client to create precise arrangements about the coaching relationship, process, plans, and goals for the meetings, and long-term outcomes are discussed.

4. The coach partners with the client to maintain a safe, supportive environment to share freely. They maintain a relationship of mutual respect and trust.

5. The coach sustains an empathetic and reflective presence.

6. The coach actively listens.

7. The coach evokes awareness by listening, asking thoughtful questions, and clarifying comments.

8. The coach facilitates client growth by asking about the next steps and asking how the person would like to proceed with the steps.

Hallowell and Ratey (1995) pioneered the concept of ADHD coaching. First, they proposed that ADHD was a lifelong condition that did not cease to exist upon entering adulthood. Additionally, they suggested that ADHD did not necessarily revolve around a person's behavior and primarily associated with hyperactivity, but instead was a neurologically-based executive function deficit. They defined executive function deficits and devised strategies to compensate for the deficits caused by the impairment, which

included positive psychology-based coaching (Seligman, 2018). Unlike most counseling which focuses on past life experiences and exploring the root causes of disorders, coaching is forward-looking (Sleeper-Triplett, 2008).

Griffiths and Campbell (2009) defined coaching as "a goal-directed, multi-faceted process for enhancing people, work, and life" (para 3), and learning through coaching occurs through relating, listening, questioning, and reflecting. Clients then apply the new knowledge to their lives. Griffiths and Campbell described the learning in coaching as an "iterative learning cycle," which implies that the more one invests in the coach and coaching relationship, the more they discover, apply and integrate new knowledge and strategies. Coaching's premise is that students are partners, and as people with agency and as legal adults, it is their choice to attend and participate in coaching.

Academic success coaching was intended for undergraduates and broadly includes programs that support students in developing successful traits and habits for an improved college experience (Swartz et al., 2005). It is beneficial for a coach to have as much training and knowledge about positive psychology, cognitive behavior therapy (CBT), questioning techniques, disability law, and the nature of disabilities (Ramsay & Rostain, 2006; Richman et al., 2014). However, the initial coaching studies in the early 2000s with undergraduate populations were coached by undergraduate or graduate peers (Swartz et al., 2005; Zwart & Kallemeyn, 2001).

Goudreau and Knight (2018) explored how support through coaching could strengthen the successful transition to post-secondary education for students with disabilities. The authors elaborated on their coaching center for students with disabilities at Lynn University, where they were employed when writing the article. Goudreau and

Knight referred to one-on-one appointments between a student and a coach as either ADHD or executive function coaching. They mentioned transition issues such as lack of structure in higher education and increased academic responsibilities, which exacerbated existing executive functioning deficits in students with ADHD.

Coaches explored the diagnosis's neurobiology and manifestation as a self-regulation issue through collaborative discussions with the student (Goudreau & Knight, 2018). Once they establish trust and honest communication about strengths and weaknesses together, the coach and student plan for possible interruptions and distractions based on the student's strengths and interests. Goudreau and Knight stated (2018), "Partnering with the student and creating a positive relationship during the first weeks of the semester is essential for them to buy into the coaching process, and provide a stable resource that students feel connected" (p. 384).

Academic coaching may offer a route to improve self-determination skills by developing realistic goals, strengthening sustained effort across time, and developing skills to regulate emotions better to deal with daily stressors (Bettinger & Baker, 2011; Fowler et al., 2018; Parker & Boutelle, 2009). Coaching attempts to address these deficiencies through one on one discussions. Discussions not only about academic concerns but also about community living, the social-emotional aspects of college life, and the hidden curriculum (Orón & Blasco, 2018). Academic coaching offers a pro-active, albeit more labor-intensive model for disability service, but a possible alternative to reactionary academic advising or psychiatric counseling (D'Alessio & Banerjee, 2016).

Coaching establishes a pro-active relationship by serving as a general resource for the student whether the issue is disability-related or concerned with another aspect of campus life, social or otherwise (Bellman et al., 2015; Goudreau & Knight, 2018). College students who establish a trust relationship with a coach are more likely to buy into coaching, trust their coach, and follow through with return visits. It is essential that the coach remains non-judgmental and supports the student to work through their challenges as much as possible. The goal is for the student to determine the best course of action for themselves.

Numerous books detailing coaching approaches and techniques slightly differ in content. The research lacks specific evidence on which coaching methodologies and questioning techniques are most effective with college students (Franklin & Doran, 2009; Howlett et al., 2021). Qian et al. (2018) suggested a relationship-based approach, which relies on the accessibility and responsiveness of the coach. Lancer and Eatough (2018) discussed the 'systemic eclectic' approach in which coaches develop their philosophy and techniques as their knowledge and experience grow to fit the students' experience and needs. (p. 74). This approach may be apt considering the disparity of ages, stages of life, diagnoses, and functioning levels one encounters at a university disability office (Parker et al., 2018; Sleeper-Triplett, 2008).

A 2018 analysis looked at 19 studies focused on coaching outcomes (Ahmann et al., 2018). Only ten out of the nineteen studies explicitly focused on college students, and all ten studies investigated students with ADHD. Ahmann et al. noted that most studies were qualitative research designs and had fewer than 25 student participants. In

many instances, the coaching studies were criticized for lacking a solid theoretical framework and random controlled trial designs.

Often, in the studies discussed, students took the Learning and Study Strategies Inventory (LASSI) as a pre and post-test to measure the effectiveness of the treatment (Weinstein et al., 1987). The LASSI is 80 questions with ten subscales, self-evaluative, standardized assessment. It uses a Likert scale (1=not at all typical of me to 5=very much typical of me) to assess the subscales, including anxiety, attitude, concentration, information processing, motivation, selecting main ideas, self-testing, study aids, test strategies, and time management. Each scale is scored separately, and there is no overall score given. Although many studies use the LASSI to denote progress in the above areas due to coaching, Reaser et al. (2007) remarked that the LASSI might not be a valuable tool for predicting success for those with ADHD.

Coaching Students Transitioning into Higher Education, Outcomes for At-Risk Students

Lefdahl-Davis et al. (2018) claimed that life coaching impacted the general population of undergraduates by increasing well-being and persistence and decreasing depression, anxiety, and stress. In addition, they found that students gained greater self-confidence, improved satisfaction with their choice of major, and improved confidence in setting and achieving goals. Coaching affects lowering procrastination by increasing undergraduate productivity. The following studies support the previous claims, first for at-risk students and then for students with disabilities.

Success Boston Coaching

Success Boston Coaching for Completion aimed to improve college completion rates for at-risk and underrepresented Boston high school graduates through one-on-one transition coaching (Linkow et al., 2019). Success Boston Coaching began as early as the student's senior year (in the spring) through their second college year. The comparison group received traditional high school guidance counseling and college advising in this quantitative research. The program provided transition coaching initially to 600 students in 2009 and increased to 2,000 students yearly due to improved collaboration with community and federal partners. Transition coaches provided financial aid information, tutoring resources, sources to help manage life responsibilities, and academic resources for students who attended various post-secondary institutions throughout the Boston area. Coaches were given (at minimum) monthly professional development training sessions.

Success Boston Coaching students met with their coaches 3 to 15 times per year, but the 2019-2020 cohort generally met for coaching sessions twice a month (Linkow et al., 2019). Researchers found coached students were more likely to persist to their second year of college and obtained 7% more credits than non-coached students. Coached students were also more likely to enroll full-time during the four semesters data was collected. Linkow et al. noted that initially, the cost was approximately $5,700.00 per student per year, partially due to startup costs and grant reporting requirements, but decreased to $3,000.00 per student per year due to larger caseload numbers for each coach.

Inside Track

The most extensive nationwide study in the United States was sponsored by Inside Track, a private coaching firm (Bettinger & Baker, 2011). Inside Track coaches

provided coaching for undergraduate students (n=8,049) across eight different higher education institutions through phone appointments. Inside Track randomly divided first-year students into two groups and let the participating institutions decide who received treatment. Researchers found that coaches spent more time discussing issues outside of the student's academic life and that these outside influences (financial obligations, caregiving responsibilities) affected school obligations.

The focus on non-academic topics superseded academic concerns and improved focus on academic goals and higher persistence leading to their second year (Bettinger & Baker, 2011). While coaching was taking place, retention was five percent higher than in the control group. The three campuses that released degree completion data on coached students' graduation rates were 4% higher than the noncoached group. Bettinger and Baker claimed that coaching proved to be a more cost-effective intervention than increasing financial aid regardless of degree (associate's or bachelor's), age of student (traditional or nontraditional), or type of institution (public or private).

Academic Coaching for Excellence (ACE)

At a public institution in Tennessee, 1,434 students in the general population who were at risk of not matriculating to their second year of college were divided into two groups; coached and not coached (Capstick et al., 2019). Researchers compared GPAs and retention data between the groups of students. The GPAs were similar between the two groups during the intervention semester. However, students who participated in coaching realized a statistically significant GPA increase compared to those who did not participate.

The Academic Center for Excellence was initially given a stipend over two semesters and provided laptops for their coaches. Researchers found that the more coaching sessions students attended resulted in a more significant impact on GPA. Also, coaching was a significant predictor of retention the following semester for full-time students, although not part-time students. Although Capstick and fellow researchers realized the increases in GPA could be attributed to many external and internal factors, they found "promise in the relational intervention that challenges and supports them by providing a connection to an on-campus academic coach to develop their academic potential" (p. 229).

Capstick et al. (2019) used research from mentoring programs that proved effective and derived their coaching model from the National Academic Advising Association. The Advising Association stated that coaching is considered "a collaborative relationship between an individual acting as an academic coach and a student who focuses on the student's personal and professional goals through the development of self-awareness; strength-building; academic planning; and definition of the student's purpose, interests, and values in order to aid in the completion of the degree." (Capstick et al., 2019, p. 220).

At the time of the study, the Academic Coaching for Excellence (ACE) trained and employed several graduate student coaches (Capstick et al., 2019). Presently, the ACE program at the University of Memphis provides coaching for all of their first-year, at-risk students according to their Quality Enhancement Plan (The University of Memphis, 2015). The crux of their program is to provide support and accountability.

They believe coaching increases students' persistence and improves overall academic success.

The University of South Carolina operates an Academic Center of Excellence (ACE), which provides academic coaching (Robinson & Gahagan, 2010). In the 2008-2009 academic year, coaches in the center met and coached 182 probationary students who were also appealing the loss of their financial aid. The coaches asked all students to complete an academic plan (academic assessment) to gather information on their motivation level, academic history, and goals for college to serve as a baseline and springboard for reflective coaching discussions. Of the 218 first-year students on probation in the research study, 22 met twice with a coach, and ten opted for three sessions. Robinson and Gahagan found that 40% fewer at-risk students were suspended, and of the 182 students coached, 92% demonstrated an improved GPA. Due to the model's success, the university implemented a new policy in which any first-year student who fell below a 2.0 GPA after the fall semester was required to meet with an ACE coach in the spring semester.

Coaching Compared to Counseling

To explain coaching from the perception of the student's personal growth as facilitated through counseling, Lancer and Eatough (2018) interviewed nine college students who received six coaching sessions throughout an academic year. They suggested that the growing number of students seeking counseling services may validate the existence of coaching services. In addition, researchers claimed coaching might proactively engage students to take action as a preventative measure before problems necessitate counseling. The coaches in this study used the systemic eclectic approach in

which "coaches develop their philosophy and techniques as their knowledge and experience develop to fit the context and the client" (Lancer & Eatough, 2018, p. 74).

The overarching theme was coaching as a catalyst for development (Lancer & Eatough, 2018). Additional themes indicated by the coached students included more confidence, control, perspective-taking, and a greater sense of balance in their college experience. The interviewees discussed coaching compared to other support services, their perceptions of which types of students would benefit from coaching, and how the coaching relationship accelerated personal development. "The relationship with the coach, in most cases, increased the students' ability to open up to them and was itself a source of motivation" (Lancer & Eatough, 2018, p. 85). Coaching also helped students make essential links between different aspects of their lives.

Coaching Studies involving Students with Disabilities

Parker and Boutelle (2009) conducted a qualitative study questioning seven college students about their individual coaching experiences. The students attended Landmark College, a small liberal arts institution in New England that caters to students with disabilities and offers professional coaching services to any enrolled student. All seven participants were diagnosed with learning disabilities (LD) or ADHD, or both. The authors mentioned that these students, as a population, experience lower retention rates, and poorer educational outcomes than the general population, partly due to self-regulation and executive functioning deficits, which both students with LD and ADHD exhibit. Seven students answered questions in the fall and the end of the spring semester about their experiences.

Researchers first sought to determine why students chose academic coaching over other widely available student services such as tutoring or advising. Earlier studies proposed that didactic models, such as tutoring and advising, "may not hold great efficacy for students who can quickly learn effective study skills but experience chronic difficulty employing those skills in a self-regulated manner" (Parker & Boutelle, 2009, p. 205). Similarly, anxiety or depression (often comorbid conditions with ADHD or learning disabilities) is generally addressed in counseling, leaving ADHD symptoms untreated; therefore, the mental health issue(s) were treated, but not the executive function issues. One student in the Parker and Boutelle study poignantly noted that his counseling experience left him feeling damaged, as if he needed to be fixed. Counseling typically discusses feelings and past events that influence current emotions and thinking, whereas coaching discusses the future and develops a plan for future endeavors.

Second, Parker and Boutelle (2009) explored students' personal experiences with coaching. Coaching, like counseling, uses questioning techniques to prompt student discussion, except advice is not often given. Although coaches offer options, they do not tell students what actions to take. Instead, help shape or guide decisions through a student-centered conversation and iterative questioning. The students interviewed in the study said that coaching made them feel like they were listened to and in charge of conversations, which promoted personal agency.

The third research question sought to clarify students' reasons for starting, continuing with, or stopping coaching (Parker & Boutelle, 2009). Often students mentioned help with time management as the reason for starting coaching. They continued because it helped them "achieve meaningful goals." Students believed they had

autonomy over their decision-making process in a nonjudgmental environment. One participant noted she could choose to try or not to try a technique without fear of disappointing her coach. Students stopped coaching because they felt they were better able to handle executive function decisions (with which they had previously struggled). In other words, the focus on accountability to oneself in coaching sessions promoted their self-determination. However, some students expressed that they wanted academic coaching to be more didactic and offer more accountability.

Parker and Boutelle (2009) noted improvement in students' self-talk and positive development with how their self-talk impacted productivity. Recognition of self-talk led to greater self-awareness and insight into why they were completing or not completing a task and its repercussions. Parker and Boutelle associate coaching with self-determination theory, believing students can make their own decisions and draw individual conclusions. The authors suggested that student service professionals note the specific strategies coaching employs to target and train employees, particularly those who work with at-risk populations.

Academic Coaching with a CBT-Oriented Philosophy

Prevatt authored and coauthored several ADHD coaching studies with colleagues at Florida State University in the Department of Organizational Psychology and Learning Systems. Prevatt and fellow researchers commissioned doctoral-level psychology students to coach undergraduates with a Cognitive Behavior Therapy (CBT) philosophy lens. CBT is a well-known therapy for adults with ADHD. Prevatt and Yelland (2013) described how executive function deficits associated with ADHD could be remediated using coaching strategies within a CBT-oriented psycho-educational framework. Within

this framework, students could develop coping skills and strategies to help with ADHD symptoms.

Prevatt and Young (2014) asserted that students with ADHD exhibited poor study habits, demonstrated lower academic achievement in college, had higher dropout rates than college peers, and thus needed additional support services to continue to graduation. Thomas, Rostain, and Prevatt (2013) purported that ADHD coaching had more similarities than differences from CBT due to incorporating discussions about planning, time management, goal setting, organization, and problem-solving.

In one of the earliest coaching studies in the literature, Swartz, Prevatt, and Proctor (2005) conducted an eight-week case study coaching intervention with one student. They administered the Learning and Study Strategies Inventory (LASSI) inventory before coaching sessions began and at the end of eight weeks of coaching, which was also listed as a limitation. The student's goal was to pass a nursing class and to improve her self-regulation strategies, which she achieved. She stated that the ADHD diagnosis had not been an issue previously; she was able to get by without much effort. Those with ADHD may experience similar impairments, each person affected in unique ways, requiring various coaching techniques. Although one case study participant is not widely generalizable, characteristics of students who appear to receive the most benefit from coaching acknowledge their diagnosis and have the self-awareness to admit the diagnosis (ADHD in this case) is causing academic difficulty. They also possess the willingness to attend appointments regularly.

Prevatt et al. (2011) found positive results in assigning between-session coaching homework to increase student accountability. The thirteen students felt that between-

session (weekly) assignments, in addition to clear and relevant goals, helped students reach their individual goals in an eight-week coaching program. However, students who demonstrated low motivation, as recognized by low attendance, did not make adequate progress in coaching. In a later study, Prevatt et al.(2017) determined that students did not respond proactively when goals were broad, seemed unobtainable, or vague. Clear, obtainable goals and consistent attendance led to greater accountability regarding task completion and acted as a positive feedback loop.

Prevatt and Yelland (2013) examined the Learning Center's pre, and post-test LASSI scores with 148 coached undergraduate and graduate students over five years. They found that participants willing to complete between session assignments showed positive growth in time management and concentration areas. The self-regulation cluster of the LASSI, which includes sections to self-evaluate concentration, time management, and study skills, assessed how students managed their learning. The area of interpersonal relations was the only category that did not improve on the LASSI over time. Generally, undergraduate clients claimed they found school more satisfying.

Prevatt (2016) mentioned that many students who attended coaching did not initially contact the center; their parents did. Initial student contact is positively correlated to high student motivation and participation. In addition, Prevatt & Yelland (2013) found that comorbid conditions such as anxiety and depression suggested less substantive progress in coaching. If students came in with non-academic mental health issues, those issues seemed to take precedence in the coaching session, leaving less time for study strategies or other academic concerns. Those who had fewer psychological concerns benefited more from coaching. In closing, researchers remarked that coaching is not a

substitute for mental health counseling, and the students who exhibited mental health concerns were referred to counseling services.

In 2017, Prevatt et al. continued their work to define specific aspects of coaching that had the most impact on college students. This research looked at how coaching impacted motivation and goal completion (Prevatt et al., 2017). Three to four long-term goals were co-created in coaching sessions, then smaller weekly objectives were collaboratively agreed upon for the following week. Motivation to complete the tasks and the use of incentives, consequences, and possible barriers were discussed. Students with ADHD often were distracted and lacked sustained attention and follow-through. These problems were a springboard for discussion. Results showed a significant task completion effect when incentives were given, such as free time, gaming, and movies. Coach ratings were predictive of task completion, while client ratings were not. However, setting unrealistic goals and failing to accomplish weekly or small steps impeded progress in the overall coaching relationship. Recommendations included a more structured approach with concrete incentives and motivators.

Coaching for Autistic Students

The University of Rhode Island provided a coaching program specifically for students with Autism Spectrum Disorder (Weiss & Rohland, 2015). Due to the increasing post-secondary enrollment of students with Autism Spectrum Disorder (ASD), disability service workers found that those with ASD consistently struggled with areas outside academics that were not easily accommodated. Areas such as social interactions in classroom settings or residential life manifested as social skill deficits or behavioral problems. The Communication Coaching program tried to cater to individual student

needs while giving structure to their academic week. Autistic students initially committed to and received at least three hours of programming per week, including peer mentoring, graduate-level speech pathology coaching, counseling, and an hour with the disability service professional. The disability coordinator managed referrals to other university resources.

The Communication Coaching program (Weiss & Rohland, 2015) initially addressed individual goals but quickly realized that student goals evolved as the semester progressed. Unexpected issues such as lack of notetaking skills, underestimating study time, and learning to initiate conversations with peers or professors provided weekly conversation topics. Throughout the program, consistent themes developed, such as loneliness and lack of peer relationships. Weiss and Rohland's suggestions for coaching conversation topics included schedule realignment, selecting a major, planning a productive work week, and best practices to resolve conflicts. The authors recapped that explicit discussion and teaching of executive function skills and social-communication skills aid in retention and graduation for students with autism.

Rando et al. (2016) introduced transition coaches for autistic students at a public university in the Midwest. The transition coaches were peer mentors that met with students daily during weekdays for up to an hour per day. Coaches noted that students struggled with social immaturity, anxiety, and disorganization. Although this was a small-scale study, with eleven participants in the first year of the program and eight students returning for the second year; researchers noted an increase in student GPA (over two semesters), a decrease in behavioral violations, and high levels of satisfaction with the program from both the students and the transition coaches.

ADHD or Executive Functioning Coaching

Richman et al. (2014) initially undertook two studies with full-time campus-based coaches at the University of North Carolina, Chapel Hill. Although researchers attempted a quantitative study, the pre and post-test survey scores did not yield statistically significant results. They determined that the sample size for the control group was too small and felt that denying a student who wanted coaching (for the control group) was ethically questionable. They continued with the qualitative study, interviewing six of the twenty-four coached students and conducting one in-depth case study.

The study aimed to improve students' executive functioning and self-determination skills through organization, time management, goal setting, and stress management opportunities without "over-dependence on external structures" (Richman et al., 2014). The authors noted the diverse demographic characteristics of their sample and called attention to various diagnoses and comorbid conditions. They stated, coaching interventions "promote self-determination (and) are positive and collaborative in nature, fostering security while also providing freedom of choice versus directive, critical, or controlling counsel" (Richman et al., 2014, p. 34).

From the interviews, Richman et al. (2014) reported five ways in which self-determination skills improved; better self-awareness, increased self-esteem, improved effectiveness in working toward goals, establishing more realistic goals, and improved critical reflection on their goal-attainment efforts. Several interviewees commented on the value of discussing a plan for the week and looking back on what worked or did not work with the previous week's plan. Several of the six students were on academic probation before beginning coaching. They commented that the accountability of the

coaching discussions improved their self-reliance and increased optimistic internal dialogue (self-talk).

In one of the few studies with control and comparison groups, Field et al. (2013) randomly assigned 160 college students with varying disabilities from public and private, four-year, and two-year institutions. They assigned 121 students to the coached group and 39 to the control group through random serial assignment. Students were assessed before the initial coaching appointment and upon completion of the treatment. Both groups took the Learning and Study Strategies Inventory (LASSI), an 80-question Likert scale, to measure their beliefs on how they would navigate college. Both groups were also given the College Well-being Scale, a 10-question, Likert scale to determine the students' subjective well-being.

The coaches had two years of coaching experience and Edge Foundation coaching certification (Field et al., 2013). After the initial two-hour student intake appointment, twenty-four weekly half-hour coaching appointments took place by Skype or phone. According to the Edge Coaching protocol, coaches "help students assess their environments, identify needs, set goals, and offer suggestions and guidance," as well as "set structure, provide support, and help implement strategies for skill building" (Field et al., 2013, p. 70). The significant results indicated that the coached students experienced an increased ability to self-regulate, as demonstrated by improved skill, will, and self-regulation scores on the LASSI compared to the control group. In-depth interviews of seven participants were conducted in a separate study by Parker et al. (2013).

In 2013, to further examine their 2011 qualitative study, Parker et al. conducted a second qualitative coaching study with 19 students from universities across the United

States. A purposeful sample was garnered from a previous quantitative study (Field et al., 2011) and used similar protocols. This (2013) study discussed the Sleeper-Triplett (2008) coaching model, which provided the framework for training coaches. In the Sleeper-Triplett model, coaches helped students "break larger goals into smaller tasks and create systems for remembering to act on those incremental steps" (p. 4). After transcript analysis, researchers identified four areas of improvement associated with coaching: better grades, more effective approaches to learning, enhanced self-efficacy, and a greater sense of well-being, including improved self-talk.

This qualitative study focused on students with ADHD who participated in ten weekly half-hour coaching sessions from Edge-trained coaches (Parker et al., 2013). Parker and colleagues claimed students with ADHD felt overwhelmed due to executive function limitations partly due to college campuses' reduced structure. Parker et al. made a point to describe coaching as inquiry-based; therefore, coaches asked questions rather than imparting instructions. The authors also differentiated tutoring, tutors, and strategy instruction sessions as didactic. In other words, a perceived expert in the field gives instructions, as opposed to a coach, which asks questions in order for the student to investigate solutions.

Interviewed students described an enhanced ability to set, navigate, and achieve goals and improved time-management skills due to coaching (Parker et al., 2011). Secondly, they reported that "a productive relationship with their coach helped them feel motivated to achieve or maintain academic success in a demanding postsecondary environment" (Parker et al., 2013, p. 124). The seven interviewed students appreciated that the coaches were supportive of their choices and seemed non-judgmental. Also,

students better understood the academic implications of their disability. Finally, the students felt more agency over their daily lives, supporting the premise that inquiry-based coaching approaches can improve self-determination skills (Zwart & Kallemeyn, 2001).

DuPaul et al. (2017) hypothesized that coaching facilitated the successful transition to postsecondary education and improved graduation rates. The two groups in the DuPaul et al. study, students with LD and ADHD, represent commonly recognized diagnoses served by college disability service providers. Authors said students with ADHD lacked persistence due to low or failing grades, withdrew from courses, and often did not complete their degree programs. In contrast, students with learning disabilities are often academically underprepared for college. Both populations may demonstrate time management deficits, embarrassment or shame due to poor academic performance, and follow-through problems on academic tasks. These issues and others account for the sharp rise in emotional distress accompanying the transition to post-secondary education.

Researchers looked at the degree to which each service (tutoring, advising, and coaching) impacted grade point average and its relation to student disability status (i.e., ADHD versus LD) (DuPaul et al., 2017). DuPaul and colleagues found the total hours of coaching had a statistically significant positive relationship with GPA; specifically, each coaching hour increased grade point average each subsequent semester, more so than tutoring (also slightly statistically significant). The advising appointments' data was not statistically significant, but the researchers acknowledged that the office's attendance record-keeping was less accurate. The coaches in the study were professional faculty or staff certified by the International Coaching Federation.

Grades increased positively for the overall sample but not as much for students with LD as for those with ADHD (DuPaul et al., 2017). The coaching intervention was more effective for students with ADHD. Specifically, "10 hours of coaching would typically boost a GPA .20 higher than a student receiving 0 hours of coaching, with all other variables controlled" (DuPaul et al., 2017, p. 253). The study concluded by stating the need for colleges and universities to go beyond standard disability accommodations and target interventions that could help students with LD and ADHD.

Dupaul et al. (2017) did not address the type of coaching or philosophical underpinnings of their coaching methodology, except to say they veered away from analyzing milestones or goals for the students. Instead, the coaches looked for instances to foster meta-cognitive thinking, autonomy, and self-determination. Their findings support the current understanding of learning disabilities as academic deficits and ADHD as deficits in follow-through on academic outcomes. DuPaul et al. suggested that tutoring may be more suited to students experiencing specific academic deficits, like those with learning disorders. In contrast, coaching may better assist with a plan to complete tasks and help with time-management issues or performance deficits typically associated with ADHD. Of course, the opposite could be true, depending on the student. Those with comorbid LD and ADHD tended to exhibit outcomes more closely associated with ADHD.

Bellman and colleagues (2015) undertook a coaching program for 41 students enrolled specifically in STEM programs with an array of disabilities. Students were offered one-hour weekly sessions at two universities and one community college, and there was no control group in the study. Coaches used an inquiry-based approach, and

students gave feedback at the end of the semester. The assessment questions found that coaching had a significant positive impact on students: improving goal setting, increasing confidence, and enhancing their career search. Through coaching, students reported learning time management and organizational skills and were better able to cope with stress.

Conclusion

Chapters one and two contained an overview of issues faced by disabled college students, the literature review, and provided the purpose of exploring a student's transition into a regional public four-year institution of higher education in Kentucky. Based on the literature review research, areas of study such as self-efficacy, self-determination, and self-regulation, as promoted in coaching sessions, were noted to aid matriculation. Coaching is presented in the literature as a relatively new model for fostering academic success.

Academic coaching is a tool for social justice to help improve retention and graduation rates for those transitioning into, through, and out of a university setting. It is hard to isolate the benefits of coaching from the personality characteristics of those students who choose to attend coaching sessions regularly. It is also difficult to differentiate coaching from the benefits of relationship building by fostering self-determination and growth for a student struggling with college.

The premise of the coaching program in the Center for Student Accessibility at EKU was to increase retention by establishing a connection between the student and a disability staff person. The conversations were student-driven and not dictated by an

agenda, survey results, or external goals. Sessions were simply an iterative conversation to support the student transitioning into, through, and out of their undergraduate program. Every student is unique; therefore, even students with the same diagnoses manifest the diagnosis differently. Through questions, students can explore academic issues. Students are treated with respect and value.

CHAPTER III

Methodology

Context of the Study

Eastern Kentucky University (EKU), the institution utilized in the research study, is a public, regional, co-educational institution located in Central Kentucky with approximately 16,000 students and five colleges (Office of Institutional Research & Eastern Kentucky University, n.d.). EKU offers a wide variety of general and liberal arts programs, pre-professional and professional training in education, and numerous other fields at undergraduate and graduate levels. The Kentucky Council on Postsecondary Education Performance and Metrics Guide for 2016-2021 explicitly examines public universities' six-year graduation rates (Kentucky Council on Postsecondary Education, 2018).

Additionally, six-year graduation rates are required by the federal Student Right-to-Know Act and Campus Security Act (1990), part of which mandates colleges to disclose graduation rates and serious crimes. By 1997, universities across the United States reported to the Integrated Postsecondary Education Data System (IPEDS) that most students completed their programs within 150 percent of the standard time or in six years. This federal data does not require data on transfer students or part-time students, only first-time attendees.

The Center for Student Accessibility's (CSA) role at EKU is to facilitate student success by enabling access to academic programs and the physical campus for students with disabilities. As an institution receiving federal funding, the university abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of

1990, as amended in 2008. The CSA provided standard accommodations such as a low-stimulus test environment, extended time on assessments, and recording technology for notetaking support, among other accommodations, to undergraduate and graduate students who registered and qualified for services as a student with a disability. Accommodations were given individually based on a request from the student, documentation, and a collaborative, interactive meeting between the student and the disability professional. Coaching appointments were offered to registered students who wanted to participate in weekly meetings with a staff member or graduate student employee through the Project Success Program.

For the years of this study, the CSA provided academic coaching for undergraduate students only. The students coached in this study were not given similar treatment. The researcher and five graduate students (four studying occupational therapy and one K-12 special education) worked in a coaching-like capacity with students from 2011 to 2016. The coaching presented in the study is not sanctioned or certified through a professional or academic organization such as the International Coaching Federation or JST Coaching.

Since neither the graduate students nor I held a clinical psychology degree or certification to counsel students, the academic coaching offered was not considered therapy or counseling. The coaching practices the graduate students and I used were coaching-like, student-centered, and inquiry-based. The literature refers to various names for coaching, including life coaching, executive function coaching, ADHD coaching, or transition coaching. For clarity regarding the purpose of the study, I refer to the one-on-

one appointments as coaching or academic coaching, which were consistent, inquiry-based individual meetings with students throughout a semester.

Research Questions

1. Is there a difference in graduation rates between those registered with the disability service office, those registered with disability services who met for one-on-one coaching appointments, and the general population who graduated in six years or less?

2. What are the descriptive statistics of those who registered for services as a student with a disability? For example, do students with specific disabilities have lower graduation rates, or do those with autism, ADHD, mental health diagnosis, and other physical disabilities graduate at commensurate rates?

3. Did students in the three groups (registered with disability service, registered and coached, and the general population) maintain a grade point average (GPA) of 2.0 or higher throughout their time at the university?

4. Was group status (those registered for disability services, registered and coached, and the general population) and first-year fall to fall retention (as indicated by enrollment the following fall semester) predictive of obtaining a bachelor's degree in 6 years or less?

Participants

All full-time students who registered for classes between fall 2011 and spring 2016 were included in the study. Students who briefly dropped down below full-time status were also included. The names, identification numbers, and identifying information were redacted to retain confidentiality. All full-time, traditional and non-traditional bachelor's degree-seeking students will be included in each six-year cohort, including

transfer students. I will request the information from the university's institutional

research department after institutional review board approval.

The sample for this study was not randomly selected. According to federal law,

students must voluntarily register for disability services. In addition, students would have

voluntarily participated in the academic coaching program, participating in at least four

meetings per semester for one semester; however, many attended meetings every week

for several semesters. The information is dependent on the accuracy of those disability

service workers (including me) who input the disability information into the institutional

research record-keeping system from 2011 to 2016. All three groups contained unique,

non-overlapping students.

Research Design

A quantitative, non-experimental design will be used for this study. According to

Creswell & Creswell (2018), a quantitative survey is a "means for testing objective

theories by examining the relationship among variables" (2018, p. 4).

Question 1 Procedure

Is there a difference in graduation rates between those registered with the

disability service office, those registered with disability services who met for one-on-

one coaching appointments, and the general population who graduated in six years

or less?

For the 2 x 3-way chi-square analysis in question one, I will request a student list

from institutional research with the number of enrolled students from each semester

beginning fall 2011 to spring 2016 and the semester they graduated with a bachelor's

degree. The first analysis will span from fall 2011 to spring 2017 (dataset A), the second

from fall 2012 to spring 2018 (dataset B), the third from fall 2013 to spring 2019 (dataset C), fall 2014 to spring 2020 (dataset D), and finally fall 2015 to spring 2021 (dataset E), five analyses. All analyses will be carried out separately by the academic year. I will include bachelor's degree graduation rates for transfer students. I will exclude students who only received an associate's degree or a certificate; unless they chose to continue at EKU pursuing a bachelor's degree, then they were included.

All students will receive a number starting with one to reduce identification. Another column will contain a code for if they graduated in six years or less, 0 for no (did not graduate in six years or less, and 1 for yes (did graduate in six years or less). Each student will receive a code for group membership, 0 for registered with disability services, 1 for registered with disability services and coached, and 2 for a member of the general population.

The analysis is a two-way chi-square (χ^2), a 2 x 3 (two by three) design. According to Wilson and Joye (2016), a χ^2 2 x 3 design is used because there are two levels of the dependent variable, graduated in six years or less or not, and three levels of the independent variable, registered with disability services, registered and coached, or member of the general population. The null hypothesis of the two-way chi-square test is that the three groups graduated at commensurate rates; no difference in graduation rates existed between the three groups. The alternate hypothesis for research question number one is that there will be a statistically significant ($p < .05$) difference in graduation rates between the three groups, students registered with a disability, students registered with a disability and coached, and students in the general population.

Question 2 Procedure

What are the descriptive statistics of those who registered for services as students with a disability? For example, do students with specific disabilities have lower graduation rates? Do those with autism, ADHD, mental health diagnoses, or physical disabilities graduate at commensurate rates?

Descriptive statistics can target services for various populations by diagnosis. For example, if those with mental health diagnoses graduate at lower rates than others, the University can target services to this population of students. I will combine the students with disabilities and student with disabilities and coached groups to see how their graduation rates compare to the general population. Although I will receive identifying information in terms of the primary disability diagnosis, I will not have the student's name or other identifying features.

Question 3 Procedure

Did students in the three groups (registered with disability service, registered and coached, and the general population) maintain a grade point average (GPA) of 2.0 or higher throughout their time at the university?

As part of the IT request, I will ask if students in the three groups (registered with disability services, registered and coached, and the general population) maintained above a 2.0-grade point average at equal rates. A 2x3 chi-square test will indicate the null hypothesis that each group maintained a GPA above 2.0 at equal rates. The alternate hypothesis is that the groups did not maintain a GPA above 2.0 at equal rates. Suppose a particular group did not maintain a grade point average at or above a 2.0 (comparable to the other two groups). In that case, it may indicate why they did not graduate in six years or less.

Question 4 Procedure

Are group status (those registered for disability services, registered and coached, and the general population) and second-year fall retention (as indicated by second-year fall enrollment) predictive of obtaining a bachelor's degree in 6 years or less?

Discriminant analysis is used to study "the differences between two or more groups and a set of discriminating variables" (Klecka, 1980, p. 11). Discriminant analysis allows a researcher to study the difference between two or more groups of objects with respect to several variables simultaneously, determining whether "meaningful differences exist between the groups and identifying the power of each variable" (p.12). The null hypothesis is that group status and fall-to-fall retention are not predictive of graduation in six years or less. The alternate hypothesis is fall-to-fall retention, and group status is predictive of graduation in six years or less.

CHAPTER IV

Results

The primary purpose of this study was to determine if there was a statistically significant difference in the graduation rates of three groups of undergraduate students. The three groups consisted of those registered with disability services, those registered with disability services and coached, and those in the general population. The study also examined the characteristics of students registered with disability services. Next, the study compared the three groups' differences in grade point average, noting if the three groups maintained a 2.0 or higher at different rates. Last, if group status and second-year fall retention (as indicated by enrollment in the following fall) were predictive of whether a bachelor's degree was obtained in 6 years or less.

The Kentucky Council on Postsecondary Education (2021) only collects metrics for first-time full-time bachelor's degree-seeking students. It collects three-year metrics for associate's degrees for Kentucky Community and Technical College System (KCTCS) students, not associate degree-seeking students who attend Kentucky four-year universities. However, at EKU, students who do not meet academic benchmarks for a bachelor's degree were placed in an associate's of general study (AGS) degree path and were not counted in the bachelor's degree-seeking cohort collected by the Kentucky Council on Postsecondary Education (EKU Office of the Registrar, 2011).

I first sought information for bachelor's degree-seeking students in this study. I changed the parameters to include students who initially declared an associate's degree and later declared a bachelor's degree. Students with ACT or SAT scores below the standard admission criteria were admitted to EKU with conditions. As non-standard

admitted students, those enrolled were placed in the university's associate's degree pathway. Once they completed their developmental requirements and maintained satisfactory academic performance (a 2.0 GPA at the time), they were permitted to declare a bachelor's degree. I included those who initially sought associate's degrees but later changed to bachelor's degrees and bachelor's degree-seeking transfer students in all three groups throughout the years examined in this study.

This non-experimental study examined three undergraduate groups over five years. As a retrospective study, I collected existing data from EKU's Institutional Research Department to examine characteristics, including relationships between the three groups of undergraduate students. The three groups were students registered with disability services, students registered with disability services and coached, and the largest group, those in the general population. The final group is not registered with a disability during their years of enrollment at EKU as undergraduate students. As an *ex post facto* study, it aimed to examine undergraduate college bachelor's degree graduation rates, retention, and grade point average between the general population, students with disabilities, and students with disabilities who were coached. SSPS v. 28 was used. SPSS is a widely used program for statistical analysis in the social sciences. Statistical significance was assessed at the 5% significance level (p-value < 0.05).

Population

The population consisted of five cohorts of 22,591 undergraduate students who attended Eastern Kentucky University from fall 2011 to spring 2016. Throughout the five years, 21,510 were in the general population, 908 were registered with the disability service office, and 173 were enrolled with disability services and coached. When the two

latter groups were combined, 1,081 were registered with disability services. Registration could have taken place at any point throughout their time as an undergraduate. Regardless of the time of registration, they were considered a student with a disability due to the fact that their documentation identified a diagnosis that impacted a major life function, according to federal regulation. During the study, pregnancy was accommodated through the disability service office. As of 2016, pregnant students received accommodations through Title IX of the Education Amendments of 1972 (2018), not through the Americans with Disabilities Act.

Table 4.1 shows an overall increase in students from 2011-2012 to 2015-2016.

Table 4.1

Academic Year First Enrolled

			Three Groups		
		General Population	Students with Disability (SWD)	SWD and Coached	Total
First enrolled	2011/2012	4218	178	36	4432
	2012/2013	4216	182	22	4420
	2013/2014	4198	170	30	4398
	2014/2015	4380	209	50	4639
	2015/2016	4498	169	35	4702
Total		21510	908	173	22591

Note. The group SWD and coached was under 30 for the 2012/2013 academic year.

Research Question 1

Is there a difference in graduation rates between those registered with the disability service office, those registered with disability services who met for coaching appointments, and the general population who graduated in six years or less?

Ho1: There is no significant difference in graduation rates between the three groups, those registered with the disability service office, those registered with disability services who met for coaching appointments, and the general population in six-year or less.

A Pearson chi-square test was used to test the hypothesis and evaluate the difference in six-year or less graduation rates between the three groups who attended EKU between fall 2011 and spring 2016. Five crosstabulations and five chi-square tests were conducted by academic year.

Table 4.2 shows that the total population for the 2011-2012 academic year was 4,432. Of those students, 45.8% (1,930) of the general population graduated in six years or less, 48.9% (87) students with disabilities, and 44.4% (16) coached students.

Table 4.2

2011-2012 Crosstabulation[a]

			Graduated in 6 years or less		
			Yes	No	Total
Three groups	General population	Count	1930	2288	4218
		% w/in 3gps	45.8%	54.2%	100.0%
	SWD	Count	87	91	178
		% w/in 3 gps	48.9%	51.1%	100.0%
	SWD and coached	Count	16	20	36
		% w/in 3 gps	44.4%	55.6%	100.0%
Total		Count	2033	2399	4432
		% w/in 3 gps	45.9%	54.1%	100.0%

a. *Note.* AY 2011-2012, all degree-seeking undergraduate students included. SWD included students with a disability and registered with disability services.

As illustrated in Table 4.3, the chi-square test was not significant, Pearson's χ^2 (2) = .699, *p* = .705. Therefore, the null hypothesis was retained (was not rejected). There was no significant difference between the three groups' six-year or less graduation status.

The data indicate that the three groups graduated at approximately the same levels. The

p-value greater than the chosen significance level ($\alpha = 0.05$).

Table 4.3

2011-2012 Chi-Square Tests[a]

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.699[b]	2	.705
Likelihood Ratio	.698	2	.706
Linear-by-Linear Association	.244	1	.621
N of Valid Cases	4432		

a. AY 2011-2012
b. 0 cells (.0%) have an expected count less than 5. The minimum expected count
is 16.51.

Table 4.4 shows the total population for the 2012-2013 academic year was 4,420,

and 47.0% (1,982) of the general population graduated in six years or less, whereas

50.0% (91) of students with disabilities and 45.5% (10) coached students. There was a

slight increase from the previous cohort's total graduation rate of 45.9% to 47.1% for the

2012-2013 cohort.

Table 4.4

2012-2013 Crosstabulation[a]

			Graduated 6 years or less		
			Yes	No	Total
Three groups	General population	Count	1982	2234	4216
		% w/in 3 gps	47.0%	53.0%	100.0%
	SWD	Count	91	91	182
		% w/in 3 gps	50.0%	50.0%	100.0%
	SWD and coached	Count	10	12	22
		% w/in 3 gps	45.5%	54.5%	100.0%
Total		Count	2083	2337	4420

	Graduated 6 years or less		
	Yes	No	Total
% w/in 3 gps	47.1%	52.9%	100.0%

Note. AY 2012-2013 included all undergraduate degree-seeking students.

Table 4.5 shows the chi-square test was not significant, Pearson's $\chi 2$ (2) = .650, *p* = .722. Therefore, the null hypothesis was retained (was not rejected). There was no significant difference between the three groups' six-year or less graduation status. The data indicate that the three groups graduated at approximately the same levels in this cohort.

Table 4.5

2012-2013 Chi-Square Tests[a]

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.650[b]	2	.722
Likelihood Ratio	.649	2	.723
Linear-by-Linear Association	.313	1	.576
N of Valid Cases	4420		

a. AY 2012-13
b. 0 cells (.0%) have an expected count less than 5. The minimum expected count is 10.37.

Table 4.6 displays the total population for the 2013-2014 academic year was 4398 students, and 46.2% (1,940) of the general population graduated in six years or less, whereas 51.8% (88) of students with disabilities and 43.3% (13) of coached students. There was a slight decrease from the previous cohort's total graduation rate of 47.1% for the 2012-2013 cohort to 46.4% in 2013-2014.

Table 4.6

2013-2014 Crosstabulation[a]

			Graduated 6 Yrs or Less		
			Yes	No	Total
Three groups	General population	Count	1940	2258	4198
		% w/in 3 gps	46.2%	53.8%	100.0%
	SWD	Count	88	82	170
		% w/in 3 gps	51.8%	48.2%	100.0%
	SWD and coached	Count	13	17	30
		% w/in 3 gps	43.3%	56.7%	100.0%
Total		Count	2041	2357	4398
		% w/in 3 gps	46.4%	53.6%	100.0%

Note. AY 2013-2014 included all undergraduate degree-seeking students.

As illustrated by Table 4.7, the chi-square test was not significant, Pearson's $\chi2$ (2) = 2.140, p = .343. Therefore, the null hypothesis was retained (was not rejected). There was no significant difference between the three groups' six-year or less graduation status. The data indicate that the three groups graduated at approximately the same levels.

Table 4.7

2013-2014 Chi-Square Tests[a]

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-Square	2.140[b]	2	.343
Likelihood Ratio	2.134	2	.344
Linear-by-Linear Association	.763	1	.382
N of Valid Cases	4398		

AY 2013-2014

0 cells (.0%) have an expected count less than 5. The minimum expected count is 13.92

Table 4.8 displays the total population for the 2014-2015 academic year was 4,639, more than the previous two years. Forty-eight percent (2,101) of the general

population graduated in six years or less, whereas 48.3% (101) of students with

disabilities and 50.0% (25) coached students. The total percentage of graduates was 48%,

up from 45.9% in the 2011-2012 academic year and 46.4% in the 2012-2013 cohort.

Table 4.8

2014-2015 Crosstabulation[a]

			Graduated 6 years or less		
			Yes	No	Total
Three groups	General population	Count	2101	2279	4380
		% w/in 3 gps	48.0%	52.0%	100.0%
	SWD	Count	101	108	209
		% w/in 3 gps	48.3%	51.7%	100.0%
	SWD and coached	Count	25	25	50
		% w/in 3 gps	50.0%	50.0%	100.0%
Total		Count	2227	2412	4639
		% w/in 3 gps	48.0%	52.0%	100.0%

Note. AY 2014-2015 included all undergraduate, degree-seeking students

As illustrated by Table 4.9, the chi-square test was not significant, Pearson's χ^2

$(2) = .091$, $p = .956$. Therefore, the null hypothesis was retained (was not rejected). There

was no significant difference between the three groups' six-year or less graduation status.

The data indicated that the three groups graduated at approximately the same levels.

Table 4.9

2014-2015 Chi-Square Tests[a]

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.091[b]	2	.956
Likelihood Ratio	.091	2	.956
Linear-by-Linear Association	.073	1	.787
N of Valid Cases	4639		

a. Academic year 2014-2015

b. 0 cells (.0%) have an expected count of less than 5. The minimum expected count is 24.

Table 4.10 displayed the total population for the 2015-2016 academic year as 4,702. Forty-nine point one percent (2,210) of the general population graduated in six years or less, whereas 53.3% (90) of students with disabilities and 51.4% (18) coached students. The total percentage of 2015-2016 graduates was 49.3%, greater than 48% of the previous academic year, and shows a fairly steady increase from 45.9% in 2011-2012.

Table 4.10

2015-2016 Crosstabulation[a]

| | | | Graduated 6 years or Less | | |
			Yes	No	Total
Three groups	General population	Count	2210	2288	4498
		% w/in 3 gps	49.1%	50.9%	100.0%
	SWD	Count	90	79	169
		% w/in 3 gps	53.3%	46.7%	100.0%
	SWD and coached	Count	18	17	35
		% w/in 3 gps	51.4%	48.6%	100.0%
Total		Count	2318	2384	4702
		% w/in 3 gps	49.3%	50.7%	100.0%

Note. Academic year 2015-2016

Table 4.11 showed the chi-square test was not significant, Pearson's $\chi2$ (2) = 1.171, p = .557. Therefore, the null hypothesis was retained (was not rejected). There was no significant difference between the three groups' six-year or less graduation status. The data indicate that the three groups graduated at approximately the same levels.

Table 4.11

2015-2016 Chi-Square Tests[a]

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-Square	1.171[b]	2	.557
Likelihood Ratio	1.171	2	.557
Linear-by-Linear Association	.901	1	.343
N of Valid Cases	4702		

a. AY 2015-16

b. 0 cells (.0%) have an expected count less than 5. The minimum expected count is 17.25.

Research Question 2

What are the descriptive statistics of those who registered for services as a student with a disability? For example, do students with specific disabilities have lower graduation rates, or do those with autism, ADHD, mental health diagnosis, and other physical disabilities graduate at commensurate rates?

I combined the two groups, students with disabilities and students with disabilities who were coached, to look at all students registered with disability services in five years. The primary disability was entered by hand by the EKU disability professionals into the university technology system. There appears to be a disproportionately large population of students with ADHD, 332 students, and this group represents the largest disability category. When students presented documentation for comorbid conditions, disability coordinators asked what condition impacted students most in an academic setting. Their answers were entered into the system as the primary disability. These self-reported answers may account for numerous students with ADHD listed as their primary disability.

The second-largest category, mental health conditions, encompassed anxiety, depression, obsessive-compulsive disorder, bipolar disorder, and post-traumatic stress disorder, among other diagnoses. Learning disorders included basic reading, reading comprehension, writing, and mathematics, and comprised the third largest category. The next category, medical conditions, covered various issues impacting students in an academic or residential setting, including Crohn's disease, lupus, diabetes, and chronic migraines. Those with temporary conditions included broken bones (the dominant writing hand) and pregnancy.

Table 4.12

Count of Students by Primary Disability
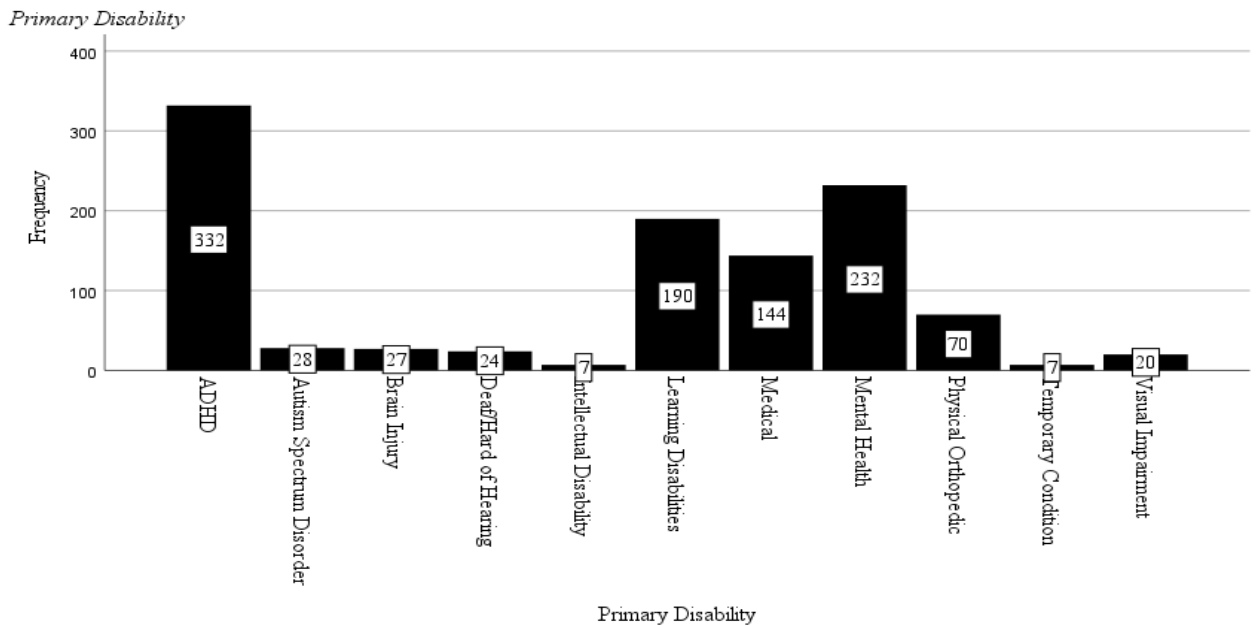
As shown in table 4.13, students diagnosed with autism spectrum disorder displayed a 21.4% difference in graduation levels, with more students in the nongraduate category. Similarly, those categories that had more students not graduating than graduating contained those with ADHD (5.4% difference), brain injuries (3.8% difference), and students with learning disabilities (9.4% difference). Notably, some populations retained

and graduated at higher percentages, the Deaf and hard of hearing population (3.8% more graduated), students with various mental health diagnoses (9.8%), medical diagnoses (9.8%), physical disabilities (17.2%), and temporary conditions (14.2%). Students with visual impairments' graduation rates were evenly distributed (50%). Overall, the total distribution of all students with disabilities was almost equal, with 49.9% graduating compared to 50.1% not graduating in six years or less.

Table 4.13

Primary Disability and Graduated in Six Years or Less Crosstabulation

			Graduated in 6 years or less	Did not graduate in 6 years or less
Primary Disability	ADHD	Count	157[a]	175[a]
		%	47.3%	52.7%
	Autism Spectrum Disorder	Count	11[a]	17[a]
		%	39.3%	60.7%
	Brain Injury	Count	14[a]	13[a]
		%	51.9%	48.1%
	Deaf/Hard of Hearing	Count	11[a]	13[a]
		%	45.8%	54.2%
	Intellectual Disability	Count	3[a]	4[a]
		%	42.9%	57.1%
	Learning Disabilities	Count	86[a]	104[a]
		%	45.3%	54.7%
	Medical	Count	79[a]	65[a]
		%	54.9%	45.1%
	Mental Health	Count	123[a]	109[a]
		%	53.0%	47.0%
	Physical Orthopedic	Count	41[a]	29[a]
		%	58.6%	41.4%
	Temporary Condition	Count	4[a]	3[a]
		%	57.1%	42.9%
	Visual Impairment	Count	10[a]	10[a]
		%	50.0%	50.0%

Primary Disability and Graduated in Six Years or Less Crosstabulation

		Graduated in 6 years or less	Did not graduate in 6 years or less
Total	Count	539	542
	% within Primary Disability	49.9%	50.1%

Note. Each subscript letter denotes a subset of Graduated in Six Years or Less categories whose column proportions do not differ significantly from each other at the .05 level.

When the coached students were combined with the students with disabilities, the data indicated that students with disabilities graduated at a slightly higher rate (49.9%) than those in the general population (47.2%) during the five years examined, as seen in table 4.14.

Table 4.14

Two groups, Graduated 6 Years or less Crosstabulation

			Graduated 6yrs or less		
			Yes	No	Total
Two groups	General population	Count	10163	11347	21510
		% w/in group status	47.2%	52.8%	100.0%
	Student w/ disability	Count	539	542	1081
		% w/in group status	49.9%	50.1%	100.0%
Total		Count	10702	11889	22591
		% w/in group status	47.4%	52.6%	100.0%

Note: Includes academic years 2011-2016

Research Question 3

Did students in the three groups (registered with disability service, registered and coached, and the general population) maintain a grade point average (GPA) of 2.0 or higher throughout their time at the university?

Ho3: There is no significant difference between the three groups' maintenance of a grade point average of 2.0 GPA throughout their time at the university.

Four chi-square tests were used to evaluate whether or not there was a difference in the three groups of students' maintenance of a 2.0 GPA (or higher) throughout their time at the university. This investigation used categorical data (either yes or no) for each group of students. The tests were performed by the academic year 2011-2012, 2012-2013, 2013-2014, 2014-2015, and 2015-2016. The 2012-2013 cohort violated an assumption and had one cell with an expected count of less than 5; the minimum expected count was 4.28. In the other four cohorts, the chi-square tests had no violations of assumptions and no cells with an expected count of less than five.

During the 2011-2012 academic year, 77% of the general population maintained a GPA at or above a 2.0, a slightly higher percentage of 79.8% of students with disabilities, and 77.8% of coached students, as shown in table 4.15.

Table 4.15

2011-2012, 3 groups GPA 2.0 or higher Crosstabulation[a]

			GPA 2.0 or higher		
			GPA 2.0 or higher	GPA less than 2.0	Total
Three groups	General population	Count	3246	972	4218
		%	77.0%	23.0%	100.0%
	SWD	Count	142	36	178
		%	79.8%	20.2%	100.0%
		Count	28	8	36

2011-2012, 3 groups GPA 2.0 or higher Crosstabulation[a]

| | | GPA 2.0 or higher | | |
		GPA 2.0 or higher	GPA less than 2.0	Total
SWD and coached	%	77.8%	22.2%	100.0%
Total	Count	3416	1016	4432
		77.1%	22.9%	100.0%

Academic year 2011-2012

Table 4.16 displays that the three groups were not statistically different, as shown by the chi-square test (χ^2 (2) = .778, p = .678); therefore, the null hypothesis was retained.

Table 4.16

2011-2012, 3 groups GPA 2.0 or higher Chi-Square Tests[a]

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.778[b]	2	.678
Likelihood Ratio	.800	2	.670
Linear-by-Linear Association	.518	1	.472
N of Valid Cases	4432		

a. Academic year 2011-12
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.25.

The 2012-2013 cohort indicated that 80.7% of students in the general population maintained a GPA of 2.0 or higher, 80.2% students with disabilities, and 63.6% coached students, as shown in table 4.17. Due to the small number of coached students, an assumption was violated, and the Pearson chi-square results were not sound due to not meeting the minimum expected count. The chi-square test for the 2012-2013 academic year was not conducted.

Table 4.17

2012-2013, 3 groups, GPA 2.0 or higher Crosstabulation[a]

| | | | GPA 2.0 or higher | | |
			Yes, GPA is 2.0 or higher	No, GPA less than 2.0	Total
Three groups	General population	Count	3401	815	4216
		%	80.7%	19.3%	100.0%
	SWD	Count	146	36	182
		%	80.2%	19.8%	100.0%
	SWD and coached	Count	14	8	22
		%	63.6%	36.4%	100.0%
AY 2012-13		Count	3561	859	4420
		%	80.6%	19.4%	100.0%

a. Academic year 2012-2013

In the 2013-2014 cohort, 79.4% of general population students had a GPA of 2.0 or higher, 80% of disabled students, and 66.7% of coached students with disabilities, an average of 79.3% for all three groups as shown in table 4.18.

Table 4.18

*2013-2014, 3 groups * GPA 2.0 or higher Crosstabulation[a]*

| | | | GPA 2.0 or higher | | |
			Yes, GPA is 2.0 or higher	No, GPA less than 2.0	Total
Three groups	General population	Count	3333	865	4198
		%	79.4%	20.6%	100.0%
	SWD	Count	136	34	170
		%	80.0%	20.0%	100.0%
	SWD and coached	Count	20	10	30
		%	66.7%	33.3%	100.0%
Total		Count	3489	909	4398
		%	79.3%	20.7%	100.0%

a. Academic year 2013-2014

Although the coached group had a lower average GPA than the other two groups, the Pearson chi-square test was not statistically significant ($\chi^2(2) = 2.991$, $p = .224$). Therefore, the null hypothesis was retained (was not rejected), as demonstrated in table 4.19.

Table 4.19

2013-2014, 3 groups, GPA 2.0 or higher Chi-Square Tests[a]

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-Square	2.991[b]	2	.224
Likelihood Ratio	2.659	2	.265
Linear-by-Linear Association	.916	1	.338
N of Valid Cases	4398		

a. Academic Year 2013-2014
 b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.20.

In 2014-2015, as shown in table 4.20, 78.8% of students in the general population maintained a GPA of 2.0 or higher, 73.3% students with disabilities, and 78% of coached students with disabilities.

Table 4.20

2014-2015, 3 groups, GPA 2.0 or higher Crosstabulation[a]

			GPA 2.0 or higher		
			Yes, GPA is 2.0 or higher	No, GPA less than 2.0	Total
Three groups	General population	Count	3450	930	4380
		%	78.8%	21.2%	100.0%
	SWD	Count	154	55	209
		%	73.3%	26.3%	100.0%
	SWD and coached	Count	39	11	50

95

2014-2015, 3 groups, GPA 2.0 or higher Crosstabulation[a]

| | | GPA 2.0 or higher | | |
		Yes, GPA is 2.0 or higher	No, GPA less than 2.0	Total
	%	78.0%	22.0%	100.0%
Total	Count	3643	996	4639
	%	78.5%	21.5%	100.0%

a. Academic Year 2014-2015

Although there was a 5.5% discrepancy between two groups, students with disabilities and the general population, the chi-square test was not significant, and the null hypothesis was not rejected (χ^2 (2) = 3.065, *p* = .216).

Table 4.21

2014-2015, 3 groups, GPA 2.0 or higher Chi-Square Tests[a]

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-Square	3.065[b]	2	.216
Likelihood Ratio	2.924	2	.232
Linear-by-Linear Association	1.743	1	.188
N of Valid Cases	4639		

Academic year 2014-2015
b. 0 cells (.0%) have expected count of less than 5. The minimum expected count is 10.74.

Lastly, 81.2% of the entire 2015-2016 cohort maintained a 2.0 or higher, an increase from the previous academic year, 78.5%, and rising 4.1 percentage points from the 2011-2012 average of 77.1%. Of those in the 2015-2016 cohort, 81.2% of the general population maintained a 2.0 or higher GPA, 82.2% were students with disabilities, and 74.3% were coached students.

Table 4.22

2015-2016, 3 groups, GPA 2.0 or higher Crosstabulation[a]

			GPA 2.0 or higher		
			Yes, GPA is 2.0 or higher	No, GPA less than 2.0	Total
Three groups	General population	Count	3653	845	4498
		%	81.2%	18.8%	100.0%
	SWD	Count	139	30	169
		%	82.2%	17.8%	100.0%
	SWD and coached	Count	26	9	35
		%	74.3%	25.7%	100.0%
Total		Count	3818	884	4702
		%	81.2%	18.8%	100.0%

a. Academic year 2015-2016

Although there was a difference of 7.9% between the two groups of students with disabilities, there was no statistically significant difference between the three groups overall (χ^2 (2) = 1.218, p = .544). The null hypothesis was not rejected, as shown in table 4.23.

Table 4.23

2015-2016, 3 groups, GPA 2.0 or higher Chi-SquareTests[a]

	Value	df	Asymptotic significance (2-sided)
Pearson Chi-Square	1.21[b]	2	.544
Likelihood Ratio	1.134	2	.567
Linear-by-Linear Association	.207	1	.649
N of Valid Cases	4702		

a. Academic year 2015-2016
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.58
.
Research Question 4

Was group status (those registered for disability services, registered and coached, and the general population) and first-year fall to fall retention (as indicated by second-year fall enrollment) predictive of obtaining a bachelor's degree in 6 years or less? Ho4: The null hypothesis is that group status and fall-to-fall retention are not predictive of graduation in six years or less.

The discriminant analysis distinguishes if the predictor variables, in this case, group membership and enrolling the following fall semester after a student's first year, are predictive of graduating in six years or less. However, there were several limitations in this analysis. First, the groups were not the same size. The students in the disability and coached group were substantially smaller in each academic year. Also, the outcome variable (graduating in six years or less) was binary and categorical. The predictor variables in this study were categorical also (not interval-level data), so the analysis must be interpreted with caution.

The Box's M is conducted to test for the equality of the groups' covariance matrices. For large samples, a nonsignificant p-value (p < .05) indicates that the matrices differ. This test should not be significant, but according to table 4.23, the Box's M value was significant, which indicated that the assumption of the equality of covariance matrices was violated (Box's M = 9353.991, F = 3117.697), p = .000. Box's M test is sensitive to departures from multivariate normality (*IBM Docs*, 2021). Groups with very small log determinants should be deleted from the analysis; therefore, the 'three groups' category was removed from the discriminant analysis. Omitting the 'three groups' category rendered the complete discriminant analysis inappropriate.

Table 4.24

Box's M Test Results

Box's M		9353.991
F	Approx.	3117.697
	df1	3
	df2	140800354387.397
	Sig.	.000

Note. Tests null hypothesis of equal population covariance matrices.

Although the three groups category was removed from the discriminant analysis, the structure matrix correlation table (table 4.25) indicated that next year's fall enrollment (.999) was highly correlated with graduating in six-year or less than group membership (-.013). Anything less than 0.30 is seen as a negligible correlation. The covariant (enrolling the following fall) was predictive of the outcome variable, graduating in six years or less.

Table 4.25

Structure Matrix Correlation Table

	Function
	1
Enrolled the following fall	.999
Three groups	-.013

Note. Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables were ordered by the absolute size of correlation within the function.

Summary

The study examined four research questions and four hypotheses. Research question 1 assessed if there was a statistical difference between six-year (or less) graduation rates between three groups, the general population, students with disabilities, and students with disabilities who were coached. When analyzing the first research question, five chi-square analyses found no significant differences between the three groups throughout the five years examined. The overall six-year or less graduation percentages showed gradual increases during the five years, from 45.9% for the 2011-2012 cohort to 49.3% for the 2015-2016 cohort.

Descriptive statistics were used to address research question two. Most students in the five years were diagnosed with ADHD. Almost half of all the students registered with disabilities between 2011 and spring 2016 graduated with a bachelor's degree in six years or less, 49.9% at a slightly higher rate than did the general population.

Research question three addressed the differences between the three groups' GPAs, specifically whether there were discrepancies between 2.0 or higher grade point average maintenance. None of the four chi-square tests conducted were statistically significant from 2011 to 2016. There was no significant difference in GPA of 2.0 or higher between the groups of students with disabilities, students with disabilities who were coached, and students in the general population. Therefore, the null hypothesis was retained in all four cohorts in which the analysis was conducted.

Finally, question four attempted to use discriminant analysis to determine if group membership with second-year fall retention as a covariate was predictive of graduating in six years or less. Second-year fall retention will be discussed in the following chapter;

however, the unequal size of the three groups' category from the preliminary Box's M

analysis rendered the full use of the discriminant analysis inappropriate.

CHAPTER V

Discussion

Purpose of the Study

The primary purpose of this study was to determine if there was a statistically significant difference in the graduation rates of three groups of undergraduate students. The three groups consisted of those registered with disability services, those registered with disability services and coached, and those in the general population. The study also examined the characteristics of students registered with disability services between 2011 and 2016. The third question compared the three groups' maintenance of GPAs at 2.0 and above. Finally, a discriminant analysis attempted to determine if group membership and second-year fall retention covariates were predictive of an outcome variable, graduating in six years or less. Chi-square analysis, descriptive statistics, and discriminant analysis were used to draw conclusions about the research questions. The following chapter contains an interpretation of the results, implications, limitations, recommendations, and conclusion.

Interpretation of Results

Question 1

Is there a difference in graduation rates between those registered with the disability service office, those registered with disability services who met for one-on-one coaching appointments, and the general population who graduated in six years or less?

H_{01}: There is no significant difference in graduation rates between the three groups, those registered with the disability service office, those registered with disability services who

met for one-on-one coaching appointments, and the general population in six years or less.

The data indicated a steady overall increase in enrolled students from 4432 to 4702 at Eastern Kentucky University (EKU) from 2011 to 2016. EKU's graduation rates, published yearly in the EKU Handbook for Students, states that the 2020 six-year graduation rate was "52.3% for first-time, full-time baccalaureate seeking freshman" (EKU Office of Student Success, 2021, p. 5). The graduates of 2020 enrolled in the summer or fall of 2014, and the degrees were awarded in August and included only traditionally enrolled first-time freshmen. Data in the current study included non-traditionally enrolled students and showed the general population steadily increased six-year or less graduation rates throughout the five years examined, between 45.8% (in 2011/2012) and 49.1% (2015/2016) at the highest level. The disability group graduated between 48.3% (2014/2015), their lowest rate, and 53.3% (2015/2016), their highest rate. The disability group graduated at a higher rate than the first-time, full-time, traditionally enrolled rate mentioned above. The coached group's six-year or less rates fell between the lowest percentage of 43.3% (2014/2015) and 51.4% (2015/2016).

Widening the parameters of my study to include non-traditionally admitted and enrolled students (those who initially had to pursue associate's degrees) and fall and spring initially enrolled students, the Chi-square analysis indicated no statistically significant difference in six-year or fewer graduation rates between the three groups during the five years examined. These results may suggest that the disability supports, including academic coaching, in place between 2011 and 2016 were effective measures that led to reasonably equivalent graduation rates. These findings support work by

Jorgensen et al. (2005), Wessel et al. (2009), and Knight (2018), who found similar graduation rates between disabled and non-disabled college students.

More research is needed to see what types of students sought disability services and coaching. It may be of interest to ask what motivated students to register for disability services. More investigation is needed to see if coached students' diagnoses impacted them more adversely than non-coached students with disabilities, leading to a greater need for coaching; or if students who pursued disability services or coaching had higher self-efficacy and self-determination. In other words, how exactly is the coached group similar to and different from the non-coached students with disabilities. Students who registered for services and received coaching did so voluntarily. No research was conducted on why or at what point in their academic career a student decided to participate in coaching or register for disability services.

Also, the number of coaching appointments attended was not considered in the data. Further research is needed to determine if those who attended appointments every week without missing benefited more. Additionally, the research did not examine those students with multiple disabilities (such as a physical disability and a mental health disability) that might take longer than six years to graduate and thus are unaccounted for in this study. The current study was a small study at one mid-sized, rural public university. It is difficult to generalize or compare findings across institutions.

Question 2

What are the descriptive statistics of those who registered for services as students with a disability? For example, do students with specific disabilities have lower

graduation rates? Do those with autism, ADHD, mental health diagnoses, or physical disabilities graduate at commensurate rates?

The second question looked at descriptive statistics of students with disabilities registered at EKU from 2011 to 2016. The data from this study must be interpreted with caution due to possible inaccurate collection and input of disability information. When multiple diagnoses were a factor, the primary disability was determined by asking the student which diagnosis impacted them the most in an academic setting. The overall 6-year or less graduation rate from 2011 to 2016 for students with disabilities was 49.9%, greater than 47.2% of the general population. EKU's fall 2015 first year traditionally enrolled 6-year graduation rate was 52.1% (EKU Office of Institutional Research, 2022) compared to the 2015/2016 students with disabilities' graduation rate of 53.3%. The overall average for Kentucky students was 49.4% of residents earned bachelor's degrees (Kentucky Council Postsecondary Education, 2021).

The current study found almost equivalent rates of students with a disability graduating in six years or less (49.9%) to those who did not graduate with a bachelor's degree (50.1%) in the five-year time frame. However, those with autism spectrum disorder, learning disabilities, and ADHD comprised the largest groups with the highest overall disparity in graduation rates. More people in these groups did not graduate in six years or less than graduated. Some people with autism and ADHD struggle with self-regulation and personal agency, impacting their graduation rates (Field et al., 2013; Mitchell & Gansemer-Topf, 2016). Disability service staff may consider targeting these three groups for coaching services or other additional support.

EKU disability staff were required to list one disabling condition in the data management system as the primary condition, which masked any comorbid diagnoses. The primary disability information was based on student input. Focus on one primary disability was a limitation. Listing only one disability may have influenced the data because possible comorbidities impacted the student. In addition, the lack of information about comorbidity overlooked how multiple diagnoses perhaps added further barriers to graduation and lacked dimensionality. I limited the disability information to one primary disability for this study.

If the average student graduates in six years, then those with multiple disabilities (such as a physical disability and a mental health disability) might take longer than six years to graduate and are unaccounted for in this study. Carroll et al. (2020) found that undergraduates with mental disabilities (cognitive, learning disabilities, and mental health diagnoses) lagged behind both the general population and students with physical disabilities (vision, hard of hearing, orthopedic, and medical diagnoses). Carroll and colleagues also found that students with mental health and physical disabilities are likely to have disrupted enrollment.

The lack of common language across postsecondary disability service agencies could lead to misleading comparisons across higher education agencies. For example, I chose to place physical or orthopedic conditions separate from medical conditions, mental health conditions, ADHD, and learning disorders. The U.S. Department of Education National Center for Education Statistics used the following nomenclature, learning disabilities (not learning disorders as written in the DSM-V), ADHD, psychiatric disabilities (instead of mental health conditions), health/chronic (instead of medical

conditions), and mobility (instead of physical impairment). More recently, Carroll et al. (2020) placed learning disabilities, depression and emotional disorders, and other cognitive impairments all under the same category of mental disabilities, not separating mental health disabilities (or psychiatric disabilities) as I did. There is little consistency in nomenclature between federal data sources, states, or institutions.

Although federal law requires disability services, state and national education agencies do not request information from postsecondary institutions about disability services. In addition, admissions offices are legally not allowed to ask if the student has a disability. Therefore, there are no state or national requirements for a standard (disability) language, collection of graduation rates for this population, or standard disability documentation guidelines. Public school systems must use thirteen specific categories for classification under IDEA (1990, 2004). Federal law also requires transition services for students with IEPs in high school, but no data is collected on how effective or if transition services occurred at the postsecondary level.

In addition, there is a disparity in disability documentation requirements. Documentation provides legal protection for the university and the disability service worker, but the lack of guidelines for paperwork and data provides inaccuracies internally and across universities. Documentation may be acceptable at one institution but not another. The Association of Higher Education and Disability recommends more reliance on student narrative and less dependence on documentation (Association on Higher Education and Disability, 2022) but offers no standard requirements. Some universities delay registration due to stringent paperwork requirements, and the timing of registration may have made a difference in their academic success.

Further research is required to determine if the timing of registration places students with disabilities more at-risk for stopping out or attrition. Undergraduates may have experienced success in high school with minimal effort and do not realize until they struggle with college-level requirements that they could have a cognitive disability such as a learning disorder or ADHD. When students submit documentation and register for services or sign up for coaching is relevant. If a student delays registration, by the time a student seeks help, it may be too late to salvage their academic situation. This study did not consider the timing of a student's registration. Regardless of when the student registered, they were counted as a student with a disability.

Recent data indicates that 19% of undergraduate students have a disability (U.S. Department of Education, National Center for Education Statistics, 2021). The data I collected from EKU did not indicate that nearly 19% of the student population reported having a disability. That leads one to speculate that more could be done to educate and communicate with students, faculty, and staff about disability services. Many students with mental health issues that pose a functional limitation are eligible for disability services and may not realize they are eligible. Alternatively, many special education students think their accommodations automatically carry over from high school to a college setting. Assuming that EKU students were aware of disability services, they may have had other challenges obtaining documentation or services. Although this information is specific to EKU and not generalizable, programs (such as coaching) targeting subgroups of students with disabilities could effectively support specific needs within the disabled population.

Question 3

Did students in the three groups (registered with disability service, registered and coached, and the general population) maintain a grade point average (GPA) of 2.0 or higher throughout their time at the university?

Ho3: There is no significant difference between the three groups' maintenance of a grade point average of 2.0 throughout their time at the university.

Five chi-square analyses from 2011 to 2016 indicated that GPAs remained relatively equivalent across the three groups and did not significantly differ. Although considered a C average, a GPA of 2.0 is high enough to keep a student qualified for financial aid (EKU Financial Aid Office, n.d.) The information from this study may demonstrate that students with disabilities performed equally as well academically as the general population. For all cohorts except 2014-2015, students with disabilities (not coached) maintained a GPA of 2.0 at a slightly higher rate, yet not at a statistically significant difference, possibly indicating higher self-efficacy and self-determination levels amongst this group. Students with disabilities may put extra time, energy, and attention into grades in order to compensate or work around their academic deficits, mental health, and medical conditions. Generally, grade point average demonstrates a student's commitment to graduation and increases eligibility for competitive undergraduate programs, scholarships, and graduate school. This study was specific to this institution and should not be generalized to other institutions.

Students can register for disability services at any time. Students who registered as freshmen or juniors were counted equally as a student with a disability. The timing of registration could skew the results in either direction. Students who registered late in their college careers may have already established a GPA above 2.0 before registering for

services. A student's late registration may have followed a semester or two of poor academic performance or the detection and diagnosis of a disabling condition. However, delaying registration may mean it is too late to salvage their academic situation.

During the study, discussions regarding accommodations took place every semester, regardless of whether the student was coached. The conversation about accommodations was schedule-driven, meaning the student's schedule was interwoven throughout the accommodation conversation. Although disability coordinators encouraged students to seek advising from professional advisors, disability professionals made recommendations regarding class schedules based on their knowledge of the student's disability, with a particular focus on first-year students. Disability service coordinators may have recommended a reduced course load, which, as a legal accommodation (U.S. Department of Education & Office for Civil Rights, 2011), could have inadvertently increased GPAs. Students that received coaching also spent at least two appointments discussing the upcoming semester's scheduling options. More investigation is needed to examine the impacts of reduced course load and scheduling recommendations from disability service coordinators based on their disability documentation.

Question 4

Was group status (those registered for disability services, registered and coached, and the general population) and first-year fall to fall retention (as indicated by second-year fall enrollment) predictive of obtaining a bachelor's degree in 6 years or less?

H_{O4}: The null hypothesis is that group status and fall-to-fall retention are not predictive of graduation in six years or less.

Although the discriminant analysis was not fully utilized due to the size of the three groups' variable, a preliminary table indicated that second-year fall enrollment was predictive of the outcome variable of graduating in six years or less. The students in the disability and coached group were substantially smaller in each academic year, more equitable group distribution may have enabled the completion of the discriminant analysis. Future researchers should consider this analysis when groups are similar.

Retention is when full-time degree-seeking undergraduates from the previous year enroll the following fall (Kentucky Council on Postsecondary Education, 2021). Students' enrollment patterns can give insight into their commitment toward graduation, which coincides with previous research. Tinto's (2006) model of institutional departure states that students require academic integration, faculty and staff interactions, and social integration (among other supports), particularly during the first year of college, which aids a student's transition. Schlossberg (1984) claims that transitions are individual experiences and vary in duration. Second-year enrollment indicates students have or are in the process of transitioning to college and may indicate their interest in degree completion.

Limitations

Several limitations exist in this study. Originally, I planned to include undergraduate students who declared a bachelor's degree and initially registered in the fall. However, I had to change the parameters because only including fall enrolled, bachelor's degree-seeking students substantially limited the numbers of students in the disability and disability and coached groups. Also, I quickly noticed that many students with disabilities delayed enrollment until the spring instead of the fall. It was undeniable

how much these two parameters, once changed, impacted the numbers of the students

registered with disability categories. The following paragraphs discuss why I chose to

include associate's degree students in addition to bachelor's degree-seeking students. I

included those who initially sought associate's degrees in all three groups.

EKU collects data on high school graduates entering Kentucky postsecondary

education as first-time, full-time students who met ACT readiness benchmarks or campus

placement exam requirements (EKU Office of the Registrar, 2011). At the time of their

admission, these traditionally admitted students were considered college-ready. In

contrast, EKU applicants who applied for admission with below benchmark ACT

composite scores of 16 or 17, subscores of less than 18 in English and reading, 19 in

mathematics, or an SAT combined verbal/critical reading and mathematics score of less

than 870, were admitted with conditions (EKU Office of the Registrar, 2011, p. 10).

Conditionally admitted students may "be limited in their selection of degree programs"

(p. 10). Potential new first-year students with "college readiness requirements in two or

more developmental areas (English composition, reading, or mathematics) were enrolled

in the Associate of General Studies (AGS) degree program" (p. 43).

This group of conditionally admitted students "may face challenges as indicated

by their established academic records" (EKU Office of the Registrar, 2013-2014, 2014-

2015, p. 43). All conditionally enrolled students were placed in the Associates of General

Studies (AGS) program until they obtained 30 credit hours and demonstrated satisfactory

academic progress. Satisfactory progress was defined as two consecutive semesters with

a GPA of 2.0 or above and completion of all developmental coursework (EKU Office of

the Registrar, 2015-2016, p.44). In 2013, the undergraduate catalog requirements

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changed to a minimum of 20 ACT composite scores and remained at that level

throughout the study's duration (EKU Office of the Registrar, 2013).

In 2016, Kentucky Governor Bevin re-instituted performance-based funding (last

instituted in 1992) to rectify state budget deficits (Desrochers & Brammer, 2018).

Performance-based data links state funding directly to public university funding based on

retention, graduation, and other metrics and closely observes student data such as

socioeconomic status and minority enrollment. However, no state information is collected

on the disabled population in Kentucky. EKU and other Kentucky state public

universities carefully monitor first-time freshmen seeking bachelor's degrees to submit to

the Kentucky Council on Postsecondary Education. Associate's degree information is not

collected at universities that offer bachelor's degrees and is only monitored at the

Kentucky Community and Technical College System.

After I noticed many students missing from the coached and students with

disabilities lists, ultimately, I changed the parameters to include more students in the

study, including conditionally admitted students allowing for an increased sample size.

Once implemented, the changes increased the number of students with disabilities and

coached students to include conditionally admitted students who initially enrolled as

associate degree-seeking students but later changed their degree path to a bachelor's

degree. Further research is needed to compare students with disabilities to the general

population noting the differences between conditionally and non-conditionally enrolled

students while paying attention to differences in the time it took each group to graduate.

Recommendations

Federal Recommendations

Although postsecondary enrollment is on a ten-year downward trend, college graduation rates at U.S. public colleges have increased by 15% since 2010 (Hanson, 2021). Statistics indicated greater success rates among students who attended public institutions. In Kentucky, 49.4% of college students earn bachelor's degrees (Kentucky Council on Postsecondary Education, 2021). However, the empirical research regarding postsecondary graduation rates of students with disabilities is ambiguous. Some research finds disparate rates between this population and the general population, and some find equivalence.

Nonetheless, a well-established historical disparity exists between the general population and the disabled both before and after postsecondary education through IDEA (2004) and the Bureau of Labor. All states must carefully monitor graduation rates (and many other benchmarks) of students receiving special education services in high school through IDEA (1990, 2004), although not their performance when transitioning to postsecondary education. Federal entities could enforce the transition component of IDEA by funding meaningful transition programs in K-12 schools and postsecondary institutions.

Likewise, the Bureau of Labor surveys disabled adults quarterly. According to the 2018 Disability Status Report (2020), 15.2% of disabled adults 21 to 64 years old held a bachelor's degree compared to 35.2% of non-disabled adults (Erickson et al., 2020). Although the data shows incongruity before and after postsecondary education, consistent federal data is needed to determine if there is a continual difference in bachelor's degree attainment and the myriad of factors that lead to this discrepancy. Moreover, data is

needed to determine what types of institutions and programs are best suited to meet the needs of the disabled population.

Several federal reports focus on college students, but definitions of disability and the types of disability reported vary widely, making it complex and challenging to interpret the information on disability accurately. Disability information is often supplementary to the study's main objectives. The national Beginning Postsecondary Student Aid Survey encompasses a yearly, nationally representative sample. Although it includes the disability status of the respondents, the purpose is to access socio-economic information. It does not ask about accommodations and relies on students' self-disclosure of their disability.

Similarly, the U.S. Census Bureau's yearly American Community Survey draws from census data. Questions are limited to disability diagnosis and category and disaggregated by graduation rates and fall retention by race and ethnicity, sex, and Pell status, not disability. The ubiquitous Integrated Postsecondary Education Data System does not collect any information on disability. The most recent National Longitudinal Transition Survey (2018) report, which focuses on transitioning high school students with disabilities, is based on survey material collected in 2012. The gap between collecting data and evaluative reporting takes years. Disability is not the focus of much existing postsecondary data collected (Herbert et al., 2014). When disability information is included, the data is not necessarily the most useful due to the interval between collection and publication and inconsistencies in nomenclature.

When federal studies are published, there are still many irregularities. Consistent labeling or nomenclature of diagnoses across federal databases is needed. What Herbert

et al. (2014) referred to as a "consistent classification scheme" (p. 29). A reliable

nomenclature could allow for careful monitoring of student progress by the condition.

Monitoring the effectiveness of disability accommodations or other services would give

professionals and institutions more information to strategically use resources for this

population based on the students' specific disability needs. Because there is no

standardized way of talking about and classifying disabilities, it is hard to generalize

across the data that has been collected.

State Recommendations

As mentioned earlier in this chapter, state data is collected from public

universities on socioeconomic and minority enrollment and is part of the performance-

based funding metrics in Kentucky. However, no information is collected on the disabled

population at the state level. The Kentucky Council on Postsecondary Education may

want to consider monitoring retention, GPA, and graduation rates of students with

disabilities as an at-risk population at EKU and other Kentucky state public universities.

The percentage of students with disabilities served at each institution could play a role in

considering funding metrics, similar to K-12 institutions. Primary and secondary schools

receive funding for students receiving IEPs under the Individual with Disabilities

Education Act (IDEA, 1990).

Gathering data on thriving transition support across institutions in Kentucky may

allow for more thorough and thoughtful programming. The University of Kentucky,

Morehead State University, and the University of Louisville (the Cardinal Success

Program) all have coaching programs geared toward students with disabilities.

Kentucky's Office of Vocational Rehabilitation provides at least partial funding for the

above-mentioned coaching programs, but at this point, there is no published data. In addition, Western Kentucky University offers the Kelly Autism Program, a nationally recognized program for autistic students that includes weekly meetings with advisors, among other assistance (Hoffman, 2016).

Institutional Recommendations

On an institutional level, data collected on students with disabilities is valuable to understand what supports provide the most benefit. Coaching models tailored to individual institutions' needs could increase retention rates for this at-risk and diverse population. Institutions could consider working within departments to address issues impacting the disabled population, such as intersectionality, universal design implementation, comorbid conditions (including mental health issues), and adapted environmental education to improve student retention. Majors supporting significant numbers of students with disabilities may require adaptive equipment, assistive technology, or other needs. A robust data management system is vital to understand when and why students register for disability services and request more intensive services such as coaching.

At EKU, data from this study supported disability services provided to students, including academic coaching, in place from 2011 to 2016. The descriptive statistics show that the five-year average graduation rate for the two combined students with disabilities groups was higher (49.9%) than the general population's (47.2%). In addition, the study showed statistically equivalent graduation rates and GPAs (above and below 2.0) between the three groups throughout the academic years examined.

To summarize, data on the federal level requires consistency with diagnostic verbiage and timely collection of data with attention to transition programs that work. A consistent disability nomenclature would further the acceptance of this data amongst research publications and the scientific community. Data on students with disabilities as an at-risk population should be considered at the state level when considering funding. Furthermore, when disaggregating the data on graduation rates and fall retention, students with disabilities should likewise be included in the data collection at an institutional, state, and federal level since there is historical disparity and federal law supports equity.

Further Research

More research is needed to determine how coaching relationships benefit students with disabilities and which concepts, techniques, and skill development impact students. This study indicated that students with disabilities and coached students graduated at statistically similar rates as students in the general population within six years or less. The study did not indicate what coaching strategies best suit or best meet the needs of students with Autism, ADHD, or other diagnoses. More research is needed across institutional settings to determine the influences of coaching in terms of GPA, second-year retention, and graduation. Such programs could be tailored to meet the needs of the students at particular institutions with consideration of their individual needs and diagnosis.

Examining the links between coaching and accommodations acquisition and usage warrants further investigation, as do barriers to registration and why students use or decline to use their accommodations. For example, an examination of whether coached students use their accommodations more often or proactively advocate for themselves at a

greater rate. Other investigations could explore the interplay between the student's diagnosis, coaching, and accommodations or why they declined or discontinued coaching.

No information was collected in the current study on the number of coaching appointments necessary or the types of training appropriate for coaches. However, research indicated that establishing a coaching or coaching-like relationship with students yields positive results in terms of improved self-advocacy, self-determination, and metacognitive skill attainment (Bellman et al., 2015; Bettinger & Baker, 2011; Capstick et al., 2019; Franklin & Franklin, 2012; Goudreau & Knight, 2018; Lefdahl-Davis et al., 2018; Mitchell & Gansemer-Topf, 2016; Parker et al., 2011; Parker & Boutelle, 2009; Prevatt, 2016). Examining coached individuals through qualitative case studies may offer additional information to understand the most effective coaching methods. Qualitative studies could develop better coaching models and specific coaching strategies for those with ADHD, LD, and ASD and add to the dimensionality and complexity of these situations.

Students want to feel valued at their university of choice, and establishing a connection with a faculty or staff member provides a connection. Conversely, students who failed to attend meetings with advisors or instructors or participate in social activities were less likely to persist (Mamiseishvili & Koch, 2011). Pre-pandemic research from the Healthy Mind Study indicated that 39% of college students experienced clinically significant symptoms of one or more mental health problems (Aguilar & Lipson, 2021; Eisenberg et al., 2020; Lipson & Eisenberg, 2018).

A huge factor in successful integration and transition is establishing relationships with the people around us (Hari, 2019). Hari (2019) states that loneliness influences depression and disconnection. As mentioned, disabilities, including mental health issues, can influence the time to graduation (Koch et al., 2016). Wessel (2009) and Knight (2018) stated that the number of years it took to graduate was longer with a disability. Additional exploration may yield that students with disabilities may take longer than six years to graduate from college. Extending the dependent variable to up to 10 years could account for more students with disabilities. Additional investigations of the influences of registration with disability services and coaching in terms of GPA, second-year retention, and graduation are needed.

Students with disabilities do not always register for services. Reasons for not completing registration could be explored. For example, if students applied but did not turn in documentation or turned in incomplete documentation, or if students completed registration, how long from their initial enrollment to the University until they registered with disability services. If students postponed registration, acknowledgment and examination of the reasons might be of interest, such as academically at risk of failing classes prior to starting the process, encouragement by family or peers, a referral from other campus entities (faculty or staff), or an emergency (such as a car accident or unexpected surgery). Through this additional research, university professionals could better understand the use, effectiveness, and impact of the relative timing of accommodations. Also, tracking the impact and effects of a reduced course load as a legal accommodation would provide beneficial information, especially concerning the time to graduation.

Further research on the efficacy of academic coaching for postsecondary students is recommended. Coaching could provide a needed connection with staff, faculty, and older student mentors. Students who establish supportive relationships and connections with faculty or staff at their university of choice are predictive of better academic outcomes (D'Amico Guthrie & Fruiht, 2020; Moriña, 2019; Raposa et al., 2021). Campus culture could promote such interactions and increase the number of students who take advantage of coaching services. Further research with a qualitative approach may provide additional evidence for the efficacy of relationship building through coaching.

Implications

It is challenging to capture an accurate portrait of students with disabilities. The group is tremendously diverse, and due to federal law, the information is highly protected and confidential. In addition, students transitioning into college may not have access to appropriate, acceptable documentation or may not know accommodations exist at the college level. Students who received services in high school may want to try college without assistance (Sanford et al., 2011). By the time students register with disability services, their academic situation may be unsalvageable through accommodations (Kuh et al., 2008).

Because data on college students with disabilities are not consistently collected on an institutional, state, or national level, it is not easy to substantiate additional resources and energy for this population. However, if 19% of college students self-report a disability (Aguilar & Lipson, 2021; U.S. Department of Education, National Center for Education Statistics, 2021), it may well be worth the effort to investigate potential and appropriate resources. Discrepancies necessitate more comprehensive information and a

more coordinated system for gathering data to understand barriers and resources for undergraduate disabled students. Substantial, coordinated, supportive systems on a local, state, and national level could improve data access and, most importantly, aid the transition into, through, and out of college with a degree.

Inconsistencies in documentation guidelines between institutions and even between administrations impact data reliability. It is certainly possible that one student is eligible for disability services at one institution but not another. In addition, court cases influence the field intermittently. It is not appropriate to generalize the results of this study to other institutions or other disabled populations in higher education. College-age is commonly considered a time when mental health issues emerge (Carroll et al., 2020). Students with later-onset mental health concerns are often not aware that they are eligible for disability services (M. Jorgensen et al., 2018). Comorbidity of disabling conditions creates additional barriers and may prolong the time to graduation. Both comorbidities and the timing of disability registration have a bearing on academic success and graduation and call for more extensive investigation.

Conclusion

Currently, statistics indicate that, on average, it takes most students six years to complete a bachelor's degree in the United States (Irwin et al., 2021; M. Jorgensen et al., 2018; Knight et al., 2018). Although some transition quickly, others take time to develop social networks, metacognitive strategies, and the self-determination skills to navigate college. Students with hidden disabilities may fear the stigma associated with disclosure and requesting accommodation (Grimes et al., 2020; Mamboleo et al., 2020). Support from a variety of campus agencies might facilitate their transition.

Reduced course load is mentioned explicitly in the Americans with Disabilities Act (1990) and 504 Rehabilitation Act (1973), which states, based on the limitations of the disability, a student may be eligible to take less than a full-time course load while maintaining full-time status. Thus, due to this particular guidance from federal law, students with disabilities may take longer than the standard four years to graduate due to academic and social demands.

Student success programs are growing in popularity. However, there is very little quantitative research about the effectiveness of programs specifically for students with disabilities, including academic coaching for students with disabilities (Carroll et al., 2020). However, due to the equivalence of graduation rates between the coached, registered students, and the general population, the current study supported the use of the services provided by the disabilities office, including coaching. The study may also validate disability professionals' expertise in assessing appropriate accommodations during the investigation.

Coaching is a proactive and engaging process that establishes relationships with students with disabilities and likely supports the transition to successful postsecondary education. Although coached students' graduation rates were indistinguishable from the other two groups, their rates were commensurate. It remained unclear if students commenced coaching due to past behaviors, which led to a situation where they needed help, their disability type, personality type, or level of maturity. More research, perhaps with a qualitative approach, is needed to determine if coaching programs help students transition in, through, and out of higher education.

State and federal organizations collect data on underrepresented minority students and low-income students, specifically those that receive PELL grants (Burns et al., 2021). Although there is some similarity between these groups, the lack of specific data collected on students with disabilities contributes to the scarcity of research on postsecondary students with disabilities. Data collection and tracking on an institutional, state, and federal level would help legitimize the field of disability services and potentially provide more resources for these students. Additional research may positively impact education and training for faculty and administration to aid approaches that place attention, resources, and support toward disability offices.

A highly collaborative campus community is needed to meet the needs of these students (M. Jorgensen et al., 2018). The campus culture must not stigmatize students who register late or have non-apparent disabilities. Carroll et al. (2020) noted that institutional processes and deficient academic preparation partially accounted for a gap in graduation rates. She explained that some course requirements, grade scales, attendance policies, and faculty expectations are structured around past norms, making the "transition from high school to college more challenging for students who do not fit these cultural norms" (p. 810).

Recognizing that students with disabilities often do not register timely (or at all) with the disability office, coaching is a proactive support system for any student in need. Coaching may mitigate feelings of under-preparation and worry about possible stigma from peers and faculty. Often these perceptions weaken self-efficacy. Campus coaching programs could integrate disability supports into existing programs and supports available to the general population, which would support students while (or if) they

register for services. Students could work with a coach until they could secure documentation supporting the need for accommodations and navigating disclosure.

During the years of this study, 2011-2016, representatives from the disability service office attended individual and district-wide high school transition meetings, spoke to parents, students, and school groups about the changing expectations from high school to college, and held summer transition camps for high school students with disabilities. Professional staff traveled to high schools in eastern Kentucky to educate teachers, guidance counselors, and students about navigating college and accessing support. Disability coordinators worked with parents and students the summer before attending college, provided training, and facilitated collaborative partnerships across campus, in addition to providing coaching for students interested in receiving these services.

The current study strengthens the idea that disability services and coaching positively impact a student's retention. The contribution of additional information regarding graduation rates, GPA attainment, and other information pertaining to students with disabilities at EKU could promote and add credence to supporting these students in, through, and out of college with an undergraduate degree.

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