Dissertations   Graduate College

4-2019

A Pilot Study: Identifying the Characteristics of Postsecondary Offices of Disability Services Associated with High Graduation Rates

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A PILOT STUDY: IDENTIFYING THE CHARACTERISTICS OF POSTSECONDARY
OFFICES OF DISABILITY SERVICES ASSOCIATED WITH HIGH
GRADUATION RATES

by

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A dissertation submitted to the Graduate College
in partial fulfillment of the requirements
for the Degree of Doctor of Philosophy
School of Public Affairs and Administration
Western Michigan University
April 2019

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ACKNOWLEDGMENTS

This dissertation was accomplished through the love of Jesus Christ and the support, encouragement, guidance, and wisdom of a multitude of people. The committee is truly the best imaginable. Dr. Hartmann's comment summarizes this well: "go get 'em, Tiffany!" Their collective wisdom and guidance allowed for completion of a project that contributes to the field. They worked within my timelines even when they were short (or too long). Dr. Leja conveyed his belief in me throughout the entire process, never allowing me to doubt I belonged among those who completed their doctoral degrees. Dr. Peters never judged me for time it took me to complete work. He understood the challenges. He had done it; so could I. I am grateful to my colleagues and friends who encouraged me to continue despite my own doubts. Our informal, and incredibly strong, cohort of three provided unconditional support and tough love. Thank you, Dr. Adrienne Wallace, for finishing your Ph.D. first and continuing to encourage Nanda Wijayanti and me. Thank you both, for the meetings and correspondence we shared to move us forward.

To my social justice warrior children, Marena and Calvin, who believed it was great that their dad and I changed traditional gender roles so that we could complete this degree. We did this as a family. This is your success too.

Thank you, Mom / Shellie, for being there many times for our family. Tim, it was not easy, but we did it. You are always my biggest fan especially when I lacked

confidence in myself. It's your turn now. Marena, this topic was selected for you and all SWDD

who deserve equity. Let's make it happen.

Tiffany B. White

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Western Michigan University, 2019

Students with disabilities are entering postsecondary education at higher rates than ever
before, but they are graduating at lower rates than their peers without disabilities. The Americans
with Disabilities Act and Section 504 of the Rehabilitation Act have made it possible for students
with disabilities to avail themselves of services in higher education to maximize their potential.
To implement laws and provide equal access to students with disclosed disabilities (SWDD),
many higher education institutions use central offices to serve students with disabilities. The
survey in this study collects information from disability office directors regarding services
provided and office characteristics.

The purpose of this study is to learn which types of offices have characteristics that
demonstrate the highest graduation rates for SWDD using statistical analysis, as well as review
patterns in the data collected from the directors and retrieved from the National Center for
Education Statistics Integrated Postsecondary Education Data System (IPEDS). The patterns
include consideration of the population size of SWDD; characteristics of offices in public versus
private institutions; types and numbers of the following: policies and procedures instituted, data
tracked, partnerships, and trainings; and documentation age and type.

There is a plethora of research on SWDD in higher education from the perspective of faculty members and SWDD; however, there is a dearth in the literature from the perspective of the directors and regarding office characteristics for disability services for students. This study, therefore, includes descriptive statistics and qualitative analysis relating to the characteristics and a Pearson's correlation test that analyzes factors affecting graduation rates. There are 3,101 records of institution data retrieved from IPEDS with 153 useable survey responses. In this mixed method study, data available for statistical analysis is analyzed using bivariate Pearson correlation test. For other data, findings are sought using inferential, descriptive, and qualitative data analysis.

These data are considered through the theoretical frameworks of Student Identity Development Theory and Punctuated Equilibrium Theory. Student Identity Development Theory explains the holistic approach to documentation types and age or currency. Punctuated Equilibrium Theory explains the process of incrementalism and punctuated events in which many directors must operate when implementing changes.

Correlations are found in three variables. An increase in SWDD is negatively correlated to the 4-year graduation rates of SWDD. Institutions whose DSS offices have a student advisory council are positively correlated to the 4-year graduation rates of SWDD. Institutions with a disability studies major are negatively correlated to the 4-year graduation rates of SWDD. The study reveals differences between public and private institutions regarding the DSS offices. More public than private institutions have offices with strategic plans, priority registration, and track a larger number of a variety of data types. There are a larger number of SWDD enrolled in institutions in cities and suburbs as opposed to towns and rural institutions. Additionally, the study reveals that staffing in offices with smaller populations of SWDD is sufficient; whereas

staffing in offices that have larger populations of SWDD is not sufficient to serve the increasing

population.

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CHAPTER I

INTRODUCTION

Disability Services for Students (DSS) offices in higher education vary in structure, function, and services offered to constituents. This study examines which office characteristics are correlated with graduation rates for students with disabilities, reviews patterns in the data in relation to office characteristics and services, and seeks findings from qualitative data. Discussion in this chapter is organized in the following sections: (1) background, (2) problem statement, (3) theoretical perspective, (4) purpose statement and research questions, (5) methods overview, and (6) conceptual framework and explanation of study selection.

Background

More students with disabilities are attending higher education than ever before (National Center for Education Statistics, 2014). The most recent data collected from the National Center for Education Statistics was 2011-12 and indicates that 11 percent of undergraduate students reported having a disability (U.S. Department of Education, 2014). According to Horn and Bobbitt (1999), the National Postsecondary Student Aid Study (NPSAS) included a question regarding disability answered by a national sample of undergraduate college students. Approximately six percent reported that they identified as having a disability.

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990 and the 2008 amendments were enacted to require postsecondary institutions to provide access for students with disabilities (ADA Amendments Act, 2008; Americans with Disabilities Act, 1990; Vance, Parks, & Lipsitz, 2014). In addition to Section 504 in the

Rehabilitation Act of 1973, "Section 508 was enacted to eliminate barriers in information technology, open new opportunities for people with disabilities, and encourage development of technologies that will help achieve these goals" (Assistive Technology Act of 1998, 1998). "The main aim of these laws is to integrate individuals with disabilities into mainstream society and to create a welcoming environment in society at large" (Agarwal, Calvo, & Kumar, 2014, p. 34). An inclusive education for students with disabilities can be possible with these laws and advances in technologies (Barnar-Brak, Lectenberger, & Lan, 2010), supportive higher education faculty and staff members, and higher education disability offices.

Oftentimes to gain equitable access for students with disabilities, higher education institutions have central disability offices and staff members to meet these needs and make decisions related to eligibility (Awoniyi, 2008; McCleary-Jones, 2007; Mellard & Bryne, 1993). For this to occur in a postsecondary education setting, students with disabilities require equitable access to educational materials because "students with disabilities encounter academic barriers that prevent them from persisting to degree completion, at least in a timely manner" (Harper & Quaye, 2009, p. 42).

One of the variables affecting higher education enrollments is the transition from secondary to postsecondary education. While transitioning from secondary education to postsecondary education can be a challenge for many students, this can be particularly difficult for those with disabilities (Adams & Proctor, 2010; Brinckerhoff, 1996; Chambers, Rabren, & Dunn 2009; Kreider, Bendixen, & Lutz, 2015; Shogren & Plotner, 2012; Taylor, Baskett, & Wren, 2010; Williamson, Robertson, & Casey, 2010). In a study conducted by Adams and Proctor (2010) of 230 undergraduate and graduate students with and without disabilities at five postsecondary institutions, they found that "students with disabilities are more at risk in terms of

their overall student adaptation to the college experience, social adjustment, and institutional attachment to college" (p. 175). Some of the factors that contribute to SWD being more at risk during the transition than their peers without disabilities include the fact that during secondary education, SWDD receive individualized education plans that were provided by a team of people committed to the success of the SWDD. Some SWDD may be underprepared for college as secondary education teachers and counselors may not have seen college as an option for them. Physically navigating a larger institution could be challenging for students with mobility concerns, those who are blind or low vision, and those with spatial challenges. The larger class sizes with less instructor interaction could be more challenging if the SWDD have been accustomed to personalized, individual guidance in high school.

Moreover, students with disabilities attending college "are less likely to persist in earning a postsecondary degree or credential than peers without disabilities" (U.S. Department of Education, 2000, p. 16). "Even though the number of individuals with disabilities entering the postsecondary education setting is on the rise, evidence suggests they are less likely than individuals without disabilities to persist in pursuing a degree or certificate" (Sharpe, Johnson, Izzo, & Murray, 2005, p. 3). "University participation requires students with disabilities to navigate and manage a wide range of demands while securing appropriate supports" (Kreider, Bendixen, Lutz, 2015, p. 426). There are a variety of ways that can assist in overcoming these difficulties. Although logic leads to the assumption that the law would reduce variations in services provided, the flexibility of the law leads to diversity. An example is documentation of the need for services. (Agarwal, Calvo, Kumar, 2014; Vance, Parks, & Lipsitz, 2014). The following paragraph from the Association on Higher Education and Disability (AHEAD) explains the reason for such variances related to documentation.

No legislation or regulations require that documentation be requested or obtained in order to demonstrate entitlement to legal protections because of disability and seek reasonable accommodations. The regulations acknowledge that postsecondary institutions may request a reasonable level of documentation. (Supporting Accommodation Requests, 2012, p. 1).

The importance of increasing graduation rates is magnified by the underrepresentation of individuals with disabilities in the workforce. (Alwell & Cobb, 2006). The unemployment and underemployment of individuals with disabilities is that many employers require a postsecondary degree (Sharpe, Johnson, Izzo, & Murray, 2005). Attaining a postsecondary degree therefore provides access to economic opportunity and personal social impact (Milsom & Hartley, 2005).

Given the importance of increasing graduation rates for students with disabilities and the DSS offices' role in achieving the goal, it is essential to document the characteristics of the offices as well as analyze the factors that correlate with graduation rates. Although, some institutions choose not to employ a central office as it can add another place where a student must discuss a disability (Barnar-Brak, Lectenberger, & Lan, 2010), this study focuses on the many institutions that employ central disability offices that assist with education, advocacy, serve as a liaison between faculty and students, as well as provide guidance to students, faculty, staff members, and community members on topics focused on disability. The study excluded different forms of implementation of the services other than the centralized DSS offices primarily because other models of serving SWDD were not available on institution websites. Additionally, the goal of the study was to learn which DSS office characteristics and services were effective. This study focused on the characteristics of those centralized offices.

One model of the office may include creating policies and procedures related to compliance, providing training to faculty and staff members, determining which students are eligible for accommodations, what requested accommodations are reasonable, producing a

notification tool for students to share with professors or instructors, and providing peer-mentoring programs, among other services. Accommodations could be as simple as allowing a student with a disclosed disability to have two work stations for ease of reaching to the floor to pick up materials (Barnar-Brak, Lectenberger, & Lan, 2010) or allowing a student access to the restroom without penalty even during exams or quizzes. Others may include course substitutions such as a logics course in place of a math course for a student with dyscalculia, extended due dates on assignments, written assignments instead of oral, adapted assignments, or talking calculators (Lancaster, Mellard, & Hoffman, 2001). Gamble (2000) explains that the function of these offices is also to provide auxiliary support such as audio texts, sign language interpreters, recorders, readers, or scribes. Other accommodations can include:

> "individual planners; scripts; in-house alternative format lab; vocational assessment; a learning strategist (graduate student) offered academic assistance twice per week; mental health counselor; preferential seating; instruction regarding medications and sleep; readers for tests; intensive case management; support focused on executive functioning skills, anxiety management, and problem solving; person-centered planning approach; accommodations for sensory needs without penalty; additional clarification from professor without penalty" (Barnhill, 2016, p. 8).

Some institutions have testing centers for quiet or extended time that are overseen by these offices. According to Gallego and Busch (2015) these testing centers may offer a reduced distraction environment. For example, Pingry O'Neil, Markward, and French (2012) found that for students with certain disabilities "the odds of graduating were best for students who qualified for distraction-reduced testing. This accommodation is often provided to students who experience high levels of distractibility when exposed to certain auditory or visual stimuli" (p. 32).

Yet another model, which is not as prevalent, may be inclusive of these activities, but additionally offer an assistive technology expert to aid students and faculty members (Edwards, 2014). Furthermore, a public relations staff member may be available to educate faculty, staff, and students. The directors of these offices decide how to implement the law and structure the offices within the parameters of available resources.

Given the range of services that may be provided by DSS offices, "higher education institutions dictate the level of support that is given to the student and can impact the students' success" (Edwards, 2014, p. 81). In the survey with 14 DSS leader responses, Edwards (2014) found that the "accommodations were the highest provided service while weekly support and academic coaching were at the lower end. This shows that these offices are providing the required services, but any extra services are only offered when there is time or as a bonus offering" (p. 83).

Problem Statement

Since complying with the law and providing reasonable accommodations are functions of the office (Agarwal, Calvo, Kumar, 2014; Vance, Parks, & Lipsitz, 2014), and there are variations in the functions of the DSS offices because the statute and regulations do not clearly define what the offices should provide, as well as variations in resource availability for each office, DSS offices have different characteristics. In addition to this, reasonable accommodations are subjective (King, 2014), which is another reason DSS offices have different characteristics to support students with disabilities. Presumably, there are also variations in graduation rates for students registered with their offices.

To determine the effectiveness of an office, it is necessary to understand the measure of success for the students. Many institutions measure student success by grade point average, retention or persistence, and graduation or degree completion (King, 2014; Harper & Quaye, 2009). For the purpose of this study, graduation rates are used to determine success. As stated by Sanford, et. al. (2011), the completion rate at a four-year institution for students with disabilities is 29.2 percent; whereas the completion rate for the general population is 42.2 percent. Thus, there is a gap that could be narrowed.

There is a dearth in the literature related to office characteristics and services provided as indicated by the DSS directors. There are studies described in the literature from the perspective of students with disclosed disabilities on the DSS offices. As an example, there was a study conducted by Sharpe, Johnson, Izzo, and Murray (2005) where 139 postsecondary graduates were interviewed. A question was included regarding how much the postsecondary graduates with disclosed disabilities learned about their own assistive technology from their DSS office support at the postsecondary level. Another question was asked regarding the study participants level of satisfaction with the accommodations provided by the DSS personnel. This is useful information from the perspective of the postgraduate participants. The survey being administered through this study is focused on the perspectives from the disability directors themselves to learn about their office characteristics and services provided as another perspective.

There also is a dearth in the literature from the perspective of the DSS directors on office characteristics and correlation to graduation rates. Without significant research on which DSS office characteristics contribute to the highest graduation rates for their students, directors of DSS offices cannot fully consider which models may work best for their student populations. Thus, potentially negatively affecting the graduation rates of their students. This study focused

on learning which characteristics of DSS offices and their institutions contributed to the highest graduation rates for students with disabilities. A cautionary note provided by Barnhill (2016) indicates that many respondents of 30 higher education institutions noted that many of the respondents did not collect data on student retention and graduation. In these cases, patterns in the data were sought and the qualitative data analysis from the respondent comments were relied upon heavily.

This dissertation utilized a mixed methods approach with a population of national DSS directors. The directors were identified by using the National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Postsecondary educational institutions in the United States were downloaded. The institutions with websites were searched for a central disability services office. If there was one available, data were collected on office name, director title, director name, email address, and phone number. Surveys were sent electronically via a personalized email to the DSS office directors. The survey included a variety of question types which were analyzed in multiple ways. Open-ended survey questions added a qualitative perspective that was analyzed for codes and themes using QDA Miner Lite. Pearson's correlation using the Statistical Package for the Social Sciences (SPSS) was used to analyze the independent variable of graduation rates against multiple dependent variables of office characteristics and services offers by the DSS offices. The analysis included descriptive and inferential statistics regarding institution, office characteristics, and services provided.

Theoretical Perspective

Punctuated Equilibrium Theory

Monear and Zumeta (2008) provided research on the punctuated equilibrium theory and

higher education governance indicating that incremental changes are generally what are used in

higher education. Monear (2008) states the following:

> According to this incremental model, policies tend to change through small,
> marginal adjustments only incrementally different from previous ones, as
> cognitively limited decision-makers - functioning under persistent time,
> information, and power-sharing constraints - seek less than optimal but minimally
> satisfactory solutions or improvements in responses to a wide range of problems
> (p. 6 – 7).

A theory that assists in explaining policy changes that occur relative to the disability

services offices is punctuated equilibrium theory (PET) developed by Baumgartner and Jones

(1993). Political processes are generally explained with stability and incrementalism. However,

there are times when a crisis occurs resulting in dramatic change in policy. This theory covers

both the times of stability and the spikes of change (Sabatier, 2009). An example of this in

education is provided by Robinson (2004) who conducted a study that demonstrates how this

theory applied to schools in their budget processes. Robinson (2004) asserts that "a decision

maker underresponds (sic) to changes for a long period of time. Once pressure for change

becomes over-whelming, the decision maker adopts a radical, dramatic, or non-incremental,

change. This is called 'punctuation'" (p. 25).

Some higher education institutions have taken the approach of incremental changes

followed by punctuated events as it relates it to disability law. Small incremental changes can

take place based upon the available resources and the ability and motivation of the director to

move the institution forward. "A punctuated equilibrium response would, instead, involve an

excess of small, incremental responses as well as an excess of large, nonincremental responses"
(Robinson, 2004, p. 31).The directors in the DSS offices may or may not inform their senior
leadership at their institutions of the impending litigation or potential risk, but the higher
education institution may under react with only small, incremental changes until such time that
litigation occurs, which is the punctuated event to move the institution quickly forward with
significant changes.

To define the types of change in this study, small incremental change is considered
primarily internal to DSS offices that affect a smaller number of constituents. For this study, the
smaller number of constituents are those closely impacted by changes within the DSS office.
Wollin, VanBeek, Coutts, and Rickert (1999) explain that incremental change is encountered
when the marginal levels of an institution are affected. For this study, one example is changing a
procedure that impacts the number of days that students must notify the DSS office in advance
that they plan to take a test in the office. Another example is informing faculty members,
instructors, and teaching assistants that completed exams will be returned to them electronically
instead of being returned in a hard copy format. To define the types of change in this study,
major, fundamental or nonincremental change is considered an institutional change that impacts
a broader range of constituents. As described by Wollin (1999), this type of change impacts the
deeper levels of the institution including the levels impacted by incremental change. For this
study, one example is the introduction or elimination of a centralized testing center. Another
example is the introduction or elimination of a centralized database for receiving and approving
accommodations.

There are numerous examples of this period of stability with a crisis resulting in change.
For example, a student who is blind and attended Grand Rapids Community College (GRCC)

filed a complaint with the Office of Civil Rights (OCR) because she did not have equal access to course materials using Blackboard ®. Although Blackboard ® provides access to the syllabus, the student who filed the complaint was not able to access the material as the platform could not be navigated with a screen reader. The GRCC student stated that when she notified the instructor of the concern, her issue was not adequately addressed. Since the complaint was filed with the Office of Civil Rights (OCR), GRCC went through an audit and brought the learning platform into compliance. In addition, GRCC entered a resolution agreement with the OCR to provide disability awareness training to all staff and faculty who work with students (McVicar, 2013). The training included "services such as taped text, interpreters, open and closed captioning" (McVicar, 2013). "As a result of the college's interaction with the Office for Civil Rights, administrators created a project to examine compliance with federal disability regulations throughout various areas within the college" (McVicar, 2013).

In addition to a student action, a punctuated event may also be set in motion by the institution. In 2013, the University of Nebraska at Kearney (UNK) argued that students were "transient visitors" so the Fair Housing Act, which is under the U.S. Department of Housing and Urban Development Office, did not apply. Postsecondary institutions that offer on-campus housing must adhere to this law. Since UNK argued that students are "transient visitors," the Fair Housing Act did not apply. Thus, a student did not have approval to have an assistance dog in residence. The punctuated event is that the courts rejected the claim that students are transient visitors. The Fair Housing Act did apply. In another example of a punctuated event, in 2014, a civil rights lawsuit was filed by the U.S. Department of Justice against Kent State University stating that discrimination occurred for a student with psychological disabilities who wanted an emotional support animal in residence and was denied approval. Kent State agreed to pay

$145,000 (Taylor, 2016). The punctuated event was that Kent State University changed their housing policy. The change allowed for SWDD to have animals in university residence when the animals mitigate symptoms relative to disability and allowing the animal did not fundamentally alter the residence.

To determine the extent to which the punctuated equilibrium events occur in other institutions, the survey tool included questions related to this theory. The questions sought to learn if and when major changes are made to their offices and if there are barriers to implementing major changes. The responses to the questions assisted in understanding if DSS offices are highly impacted by the litigation and settlements that occur at other higher education institutions, or if they only make major changes if their institution received a legal complaint.

Student Identity Development Theory

The second theory that was used to frame this research is the Student Identity Development Theory. In 1969, Chickering offered seven developmental points that contribute to identity development that were later updated in 1993 by Chickering and Reisser. The seven vectors included: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal, relationships, establishing identity, developing purpose, and developing integrity (Chickering & Reisser, 1993). "Student Identity Development Theory can be a useful framework to help administrators and service providers be more supportive when providing services, and to consider how the needs of students with disabilities may change throughout college" (Hadley, 2011, p. 78). Although the law requires a transition plan from high school to higher education, it is not a requirement to share the information with the staff at the higher education institution (Eckes & Ochoa, 2005). There are

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also significant differences in the law that applies to K-12 versus postsecondary education. This is an important theory as students with disabilities encounter significant differences in the laws that applied to them in K-12 education from those laws that protect them in higher education. In addition, supports that were previously in place for a high school student with disabilities may be available in higher education, but could present in another way. In a study conducted by Kreider, Bendixen, and Lutz (2015), "students relayed stories of their difficulty in understanding what specifics of their diagnosis meant within the context of their lives as a student. Students spoke of how the process of developing their own disability identity affected self-management of their disability related needs" (p. 436). "Because college students are required to accept the label up front before anything else can happen in the accommodation process, the practical question becomes how to help them manage their disability identity" (Trammel, 2009, p. 25). Student Identity Development Theory can guide administrators in working through this with students and their support systems as understanding strengths and disability-related challenges are necessary for self-advocacy which is an essential part of postsecondary education. According to Anctil, Ishikawa, and Scott (2008) persistence is the initial path toward a positive academic identity.

To learn if DSS directors perceived that their offices are impacted by Student Identity Development Theory, questions were asked within the survey tool regarding services offered to support students registered with their offices regarding disability identity. These questions were primarily related to services and programs. The name of the office was also considered as the term *disability* could be a deterrent for some students to frequent an office with that name.

The Student Identity Development Theory is explained in further detail in Chapter II as a part of the literature review since it is a characteristic within the Programming Support Component in Figure 1.

Purpose Statement and Research Questions

The purpose of this mixed method study was to deepen the understanding of which DSS office characteristics within degree-granting higher education institutions are most effective in increasing graduation rates for students with disabilities, review patterns in the characteristics of office implementation, as well as learn if the institutions are affected by punctuated equilibrium theory and Student Identity Development Theory as frameworks. The study evaluated current DSS characteristics and practices and predicted a few characteristics for graduating students with disabilities.

A mixed methods survey tool was used to examine the following research questions: 1) What are the patterns of DSS office structures and characteristics that correlate to higher graduation rates? 2) What services are offered to registered students, staff members, and faculty members that correlate to higher graduation rates? 3) What mechanisms are used for publicizing the DSS office and services that correlate to higher graduation rates? 4) To what extent is identity theory reflected in the DSS Office characteristics and programs? 5) Are major changes or punctuated events generated by external actions: student complaints and office of civil rights decisions?

This study is significant since there is a dearth in the research literature from the perspective of the leaders of the DSS offices (Edwards, 2014) and in correlating DSS office characteristics to graduation rates. It also provides DSS practitioners with information that could strengthen the characteristics of their offices. For example, this study from the DSS director perspective study provides correlations between specific office characteristics and graduation rates. If those office characteristics are not already established at a particular practitioner's DSS office, it could be implemented in an effort to increase graduation rates for students with

disclosed disabilities. Increasing graduation rates benefits the DSS office, the institution, the

students with disclosed disabilities and their support systems, as well as the economy in general.

Methods Overview

Participants

The national population of focus for this study was directors of disability services offices

in postsecondary education within the United States who oversee centralized DSS offices. The

first step for deriving the list of directors of DSS offices involved consulting the NCES and

IPEDS to identify institutions of higher education. There were 3,101 records pulled from the

database.

Procedure

IPEDS database provided information on 3,101 institutions. Of that number, there were

3,031 institutions with higher education institution websites. The institution webpages were

consulted to define the director's name and email address. If this information was not provided,

then the general office email was used. Some institutions had multiple listings for the same

website. That was the case when there were multiple campuses for one institution. In these cases,

if a DSS director could not be located on individual campus sites, only the main website was

used. There were 1,525 institutions that included a director or office email address. Of the 1,528

email addresses, seven were duplicates that the survey software located that had not been

previously identified as duplicates so there were 1,521 available email addresses.

The initial survey invitation that was sent to 1,521 email addresses on November 12,

2018. A reminder email invitation was sent on November 19, 2018. During November 19

through 21 and November 26 and 30, 2018, four research assistants made phone calls to 121

potential respondents who had not yet completed the survey. The 121 phone calls were only

made to directors of institutions whose IPEDS data indicated that the percent indicator of

undergraduates formally registered as students with disabilities was 3 percent or greater. For

consistency, the primary researcher trained the research assistants and a script was provided. See

appendix E.

Survey

A survey was the tool used to collect data from the directors. The types of questions

ranged from one selection radial dial, multiple selection, Likert scale, short answer text boxes,

and open-ended text boxes for entering as much as the directors chose to include. The survey

included 45 questions; however, since there was branching within the tool, not all of the

questions were offered to every respondent. See appendix A.

Measures

Pearson's correlation test was used to determine the direction of the correlation, the

strength of the correlation, and whether the correlation was significant. In this study, the

independent variables are the characteristics listed under the components in Figure 1 (i.e.

documentation accepted, funding levels, staffing levels, mentoring programs, transportation, high

school transition programs, etc.) within the same analysis for one dependent variable (graduate

rates for students with disclosed disabilities). Data from the surveys were measured using a

correlation coefficient between variables to determine the strength of the correlation between the

DSS characteristics and graduation rates. Descriptive and inferential statistics were also used to

analyze data from the survey. For the qualitative component derived from the open-ended questions, a qualitative data analysis computer software package was used. QDA Miner Lite was used to assist in organizing the data to analyze for codes, major themes, subthemes, and provide further insights into the quantitative data analysis.

Conceptual Framework and Explanation

This topic is important to me because several people in my family, myself included, have one or more disabilities. My daughter, a college sophomore, has disabilities, as well as my husband, three of my sisters, three of my nephews and myself. For students with disabilities considering college, it is necessary for them to understand the available services at the institution of choice before finalizing a decision (Lancaster, Mellard, & Hoffman, 2001; Milsom & Hartley 2005). In researching a higher education institution for my daughter, we looked at many factors, as do students without disabilities, such as financial aid package offered, location, athletic programs, academic programs, recommendations from friends, family, and colleagues, and institution size (Lancaster, Mellard, & Hoffman, 2001). In addition to these criteria considered by students without disabilities, my daughter desired to find an institution that was inclusive for students with disabilities. She desired inclusivity to be a part of the culture from universal design teaching methods of professors to knowledgeable professionals in student services and an inclusive, welcoming general campus life. Additionally, she desired the institution's DSS office to operate in a model that promotes high graduation rates for students with disabilities. She inquired with three DSS directors to learn if their SWDD graduation rate was similar to the graduation rate for SWODD. She received a response from only one of the directors. The other two did not have the data available to them.

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Because of personal experiences with disabilities for myself and my family members, this is an area of potential bias that was considered in developing the study. Another area of possible bias for me is that I work in an Office of Diversity and Inclusion at a higher education institution where a DSS office reports through my office. Although the office does not directly report to me, I offer guidance and support to the DSS office director and staff members. With the professional experience with DSS offices, it introduces the possibility of a mask or unperceiving important aspects of the operation of the office.

Despite the concerns regarding the personal and professional components, it increased my experiential knowledge of the topic and encouraged me to read heavily about students with disabilities beginning when my daughter was a preschooler, which has been over 15 years from when she was four until now at age 19, now a sophomore in college. She was a dual enrolled high school student, so she had college credit when she entered postsecondary education after high school graduation, which is why she is a 19-year-old college sophomore. My employment in the Office of Diversity and Inclusion also encouraged me to attend conferences, webinars, professional development opportunities, and conduct research into the area of students with disabilities enrolled in higher education. The combined personal and work experiences inform the study in that it allowed for inclusion of specific variables for the office characteristics that may not have otherwise been considered, provided a lens of strengths and weaknesses for DSS offices, and informed the selection of the survey questions. Moreover, my passion about the study continued to move it forward despite numerous competing obligations. Thus, there are both pros and cons to being personally involved with this research topic.

Since bias is, nevertheless a possibility, it is important to note that the personal and work experiences could have impacted the way in which questions were asked and the qualitative data

analyzed. Precautions were implemented to minimize bias as much as possible. One

consideration was the research tool itself. Although there are drawbacks to a self-administered

survey, it does eliminate interview bias (Singleton & Straits, 2010). Personal bias could have

affected the survey tool in the way the questions were written. To reduce this possibility, the

draft survey tool was reviewed by three social science researchers. Two of the social science

researchers did not have background in disability and one did have experience in this area. The

review of the draft survey by the three social science researchers complemented the review by

the three dissertation committee members. Furthermore, other independent reviews of the survey

took place. Three disability leaders in higher education, with whom I have a personal or

professional relationship, reviewed the study, and were excluded participation. Following the

draft survey tool reviews, it was field tested by distributing it to 15 individuals. The group of 15

individuals consisted of professionals who work in disability and diversity in higher education,

professionals who work in disability areas in postsecondary education, higher education students,

and people who identified with various types of disabilities. This was necessary to assure that the

questions were accessible as there are presumably DSS directors who identify with having

disabilities. Feedback was implemented regarding question clarity and on ways that the survey

could be shortened.

Visual Representation

To visually represent the overall framework for the study, Figure 1 depicts the three main

components of the DSS offices considered in this study in a Venn diagram. The components that

may contribute to the graduation rates are the office structure, partnerships, and programming.

The components and the characteristics are primarily derived from the literature and are

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considered in the survey tool to determine what characteristics for DSS offices are most effective

at graduating SWDDs. Each of these components overlap in terms of what types of items could

be considered within each component. For example, programming could be offered as a

collaboration or partnership with multiple other offices. Many of the survey questions are

derived from the characteristics associated with each component to learn if there is a correlation

between graduation rates and each particular characteristic. The questions are supplemented by

demographic characteristics of each institution downloaded from IPEDS. The characteristics of

the DSS offices are discussed more thoroughly in the literature review section.

Offices of Disability Services for Students in Higher Education

Publicizing
Institution demographics (Example: private or public)
Reporting structure
Staffing levels, funding levels & types
# of registered SWDD
Accommodations/Modifications
Documentation accepted & age of documentation
Strategic plan, policies, procedures
Professional networks
Student advisory board
Data tracking
Constituents served
Office location
Communication Methods
Punctuated Equilibrium Theory framework

Community Partnerships (high school counselors)
Academic Advisors
Graduate College
Libraries
Athletics
Admissions
Residence Life
Counseling Center
Health Center
Retention Offices (Academic Support Center, TRIO programs, Transfer Students Office, Military & Veteran's Affairs)
Facilities Management
Landscape Services
Dining Services
Faculty & Staff Roles
Faculty Development
Legal
Information Technology
Grants or Research Office
Development Office

Structure

GRADUATION RATES

Internal & External Partnerships

Programming Support

Mentoring programs
Student, faculty, and staff trainings offered
Conduct internal research on climate
Online resources available to faculty
Online resources available to staff
Online resources available to students
Fee-for-service programs offered in addition to accommodations
Emotional support animal programs
Transition services
Study abroad opportunities
Scholarships
Overall programs offered
Student Identity Development Theory Framework

Figure 1. Model for high graduation rates.

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Significance of the Study

There are many studies that focus on the perspectives of students with disabilities and faculty members working with students with disabilities, but significantly less on the actual office structure or the perspective of the DSS directors (Cobb & Alwell, 2009; Cook, Rumrill, & Tankersley, 2009; Edwards, 2014; Lightner, Kipps-Vaughan, Schulte, & Trice, 2012; Timmerman & Mulvihill, 2015). There are not a great number of research projects that focus on the DSS office and the directors of the offices (Edwards, 2014; Janiga & Costenbader, 2002; Salzberg, et al., 2002). Although there are many practitioner articles that provide recommendations for practitioners, these articles are not research focused. Learning which characteristics of a DSS office impact graduation rates contributes to the literature. This study may provide information for practitioners that could enhance the effectiveness of the DSS offices.

Key Terms and Definitions

Accommodations or modifications are adjustments to instruction or the educational environment that make it possible for a qualified person with a disability to receive a similar education as their peers without disabilities. The adjustments to the learning environment or methods of instruction or delivery of content must not alter the fundamental nature of the course. They are only meant to provide access to the students with disabilities and level the playing field without providing an advantage to the students with disclosed disabilities.

Americans with Disabilities Act is federal legislation that was passed in 1990 to provide protection for people with disabilities in employment, public services, public accommodations, and communications (Cook, 2007).

Assistive technology as defined by the Assistive Technology Act of 1998 "means technology designed to be utilized in an assistive technology device or assistive technology service." In addition, an assistive technology device is defined as "any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities."

Director refers to the leader of the central office that assists students with disabilities in receiving support and accommodations.

Disability Services for Students (DSS) also refers to the central office where students with disabilities can receive support and access to accommodations.

Individual with Disabilities Education Act is federal legislation passed in 1975 as the Education for All Handicapped Children Act (Public Law 94-142) and reauthorized in 2004 as the Individuals with Disabilities Education Improvement Act. It is meant to support educational rights and funding of students with disabilities (Cook & Tankersley, 2009).

Individualized Education Plan (IEP) is a plan developed by K-12 educators, parents and families, and the student with disabilities to guide the individualized education in a least restricted environment within the public school system through high school graduation.

Institutions of higher education (IHE) refers to community colleges, colleges, and four-year bachelor degree-granting and above for the purpose of this study. These institutions are included in postsecondary education.

Office refers to the central office where students with disabilities can receive support and access to accommodations. For the purpose of this study, it has the same meaning as the office of Disability Services for Students (DSS).

Postsecondary education includes higher education institutions and any other vocational training engaged in after high school graduation.

Section 504 of the Rehabilitation Act is part of federal legislation that was passed in 1973 mandating that no "otherwise qualified handicapped individual" shall be excluded from participation in programs or activities that receive federal funding, including colleges and universities.

Self-advocacy refers to the ability of a student with a disclosed disability to represent their needs and interests. It is a component of self-determination.

The *self-determination* definition is from Field, Martin, Miller, Ward, and Wehmeyer (1998).

> A combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations, together with a belief of oneself as capable and effective are essential to self-determination (p. 2).

Students with disclosed disabilities and students without disclosed disabilities are described throughout this study. Throughout the literature, students are referred to as students with disabilities (SWD) and students without disabilities (SWOD) (Barnar-Brak, Lectenberger, & Lan, 2010). While this one way to simplify the description, it does not fully account for students who have one or more disabilities but do not disclose them and do not register with the office for support and accommodations. In the literature, SWDs are generally those students who self-disclose a disability and register for accommodations and services with a central office. SWOD are students who do not disclose a disability and do not register with a central office (Adams & Proctor, 2010). For the purpose of this study, students with disclosed disabilities will

be referred to as SWDDs and students who have not disclosed a disability will be referred to as students without a disclosed disability (SWODDs).

A *student with a disability* as defined by section 504 of the Rehabilitation Act and the Americans with Disabilities Act is someone with a physical or mental impairment that substantially limits one or more major life activities, someone with a record of a substantially limiting impairment, or an individual who is perceived to have such impairment.

Student success is defined as graduation from a postsecondary education institution. Graduation could take place in four, five, or six years with each graduation year considered student success.

Summary

Students with disabilities have greater challenges in adjusting to college life and have lower graduation rates. The services provided by DSS offices therefore impact their success. In addition to this being a social justice concern, accessibility is a legal mandate (Americans with Disabilities Act, 1990). DSS offices work to level the playing field so that SWDDs have access to an education that is equitable to SWODDs. This study sought to learn which characteristics of DSS offices correlated to higher graduation rates so that the information could be considered by DSS directors and practitioners. Chapter II examines academic and professional literature and provides information on the availability of services, supports, and accommodations available through some DSS offices for students with disabilities that may affect graduation rates. Chapter III explains the methodology for considering office characteristics and correlations to graduation rates for SWDDs. Chapter IV analyzes the data. Chapter V describes a summary of results and how they can be used by directors to demonstrate where enhancements may be beneficial.

CHAPTER II

LITERATURE REVIEW

Background

The previous chapter provided an overview of the topic. This chapter is a literature review that focuses on specific contributions and DSS office programs and characteristics that can improve graduation rates for students with disabilities. The literature informed the development of the survey questions. The data are also used to determine the characteristics that are correlated with higher graduation rates. Discussion in this chapter is organized in the following sections: (1) characteristics of disability services for students' office, (2) internal and external partnerships, (3) disability services for students programming opportunities, (4) marketing and promotion of the office of disability services for students, and (5) theoretical framework.

Disability Services for Students Office Structure and Characteristics

Survey questions were developed from the literature reviewed for this section for office functions and structure portion of the components depicted in Figure 1.

Office Functions

Directors of the offices of disability services for students decide how to implement the law, both the objective and subjective pieces so they vary in functions. Office functions may include determining which students are eligible for accommodations and what requested

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accommodations are allowable, considering or offering assistive technology, considering

advancements in technology funding, etc.

Although there are many similarities in the functions of the offices, there are also many

variances. According to Garrison-Wade and Lehman (2009), "The data also show how

differences in relevant policies can be confusing and can create perceptions of fragmented

institutional services" (p. 416). For example, legislation allows postsecondary institutions to seek

a reasonable level of documentation (Supporting Accommodation Requests, 2012). However, the

term 'reasonable' is not well defined. According to Raue and Lewis (2011), institutions provided

information about documentation requirements in a survey conducted by the National Center for

Education Statistics, which indicated the following.

> 92 percent of institutions reported that they require verification of student
> disabilities for some purpose, although the specific purpose of the verification was
> not requested. Of these institutions, 44 percent accepted an Individualized
> Education Program (IEP) and 40 percent accepted a 504 Plan from a secondary
> school as sufficient, stand-alone verification, while 80 percent accepted a
> comprehensive vocational rehabilitation agency evaluation" (p. 3).

In a study conducted by the National Joint Committee on Learning Disabilities (2007), 96

percent of approximately 100 respondents indicated that the DSS office makes the decision

regarding eligibility and 53 percent use professional judgement in doing so. This suggests that

the vast majority of DSS offices decide which students receive which accommodations and that

more than half of them use their own professional judgement in making these determinations,

therefore, this contributes to the subjective nature of the decision-making process regarding

accommodations. Edwards (2014) found in her interviews of six DSS leaders that some

participants in her study focused more heavily on listening to the needs of the student rather than

a particular type of documentation. Unclear legislation, professional judgement, various forms of

available documentation, varied experiences and educational fields obtained by directors, and the

expressed needs described by the SWDDs and their support systems lead to subjectivity in determining acceptable documentation and reasonable accommodations from DSS directors.

In addition to considering documentation for acknowledging disabilities, Gamble (2000) explains that the function of these offices is to provide auxiliary support such as audio texts, sign language interpreters, recorders, readers, or scribes. Sharpe, Johnson, Izzo, and Murray (2005) describe some additional instructional accommodations including alternative learning environment, communication with professors and instructors via email, recording lectures, enlarged print, class relocation, preferential classroom seating, tutorial support, transcription services, specialized software, amplification systems, modified schedule, change in instructional delivery, and interpreter or transliterator. Adams and Proctor (2010) add advocacy services, study skills services, priority registration and course scheduling, and learning center laboratories as accommodations. Some institutions have testing centers that are overseen by these offices for quiet or distraction-reduced testing areas and/or extended time on tests.

These accommodations are often necessary to place SWDDs on the same playing field as SWODDs so that they have similar access to the educational environment. For example, Pingry O'Neil, Markward, and French (2012) found that SWDDs who required distraction-reduced testing and received that accommodation increased the likelihood of graduating. By reducing the distractions, SWDDs are on the same playing field as SWODDs so that the environment that can be accessed for both populations of students.

Reporting

The reporting structure of the DSS offices varies by institution. Some institutions include the offices as a part of Student Affairs, Academic Affairs, or Diversity and Inclusion offices.

Each reporting structure may have a different impact on the graduation rates of SWDDs. Student Affairs may have a broader focus than solely on academics which may occur under Academic Affairs. A reporting structure through Diversity and Inclusion offices may demonstrate that "SWDs are a fundamental part of the diversity that institutions of higher education are attempting to embrace and celebrate" (Barnar-Brak, Lectenberger, & Lan, 2010, p. 424). A reporting structure through Academic Affairs may have the ability to focus academic support and encourage and motivate instructors in a way that other units may not have the influence to do.

Staffing

Since more students with disabilities are attending higher education than ever before (National Center for Education Statistics, 2014), adequate staffing levels could be an area of concern. Edwards (2014) conducted interviews of six DSS leaders and found that with the increase in the students registered with the offices, increased staffing is necessary as they do not have the time required to spend with each student. Edwards (2014) also conducted an electronic survey of DSS leaders where "57% of respondents to the survey stated that they share the role of decision maker, designer and/or implementer of needed support services. These staff members are spread too thin and, with the increase in this student population, this will only get worse" (p. 84). As enrollment and SWDDs increases, the staffing level also needs to increase to maintain continued services at a consistent level. Institutions require knowledge of their desired number of full-time equivalencies (FTEs) per SWDDs to perform the functions the institution chooses.

Professional staff who direct and operate the management of the offices have various levels of experience, education, and knowledge. "Information regarding the knowledge and competencies of leaders in higher education disability support services offices is limited"

(Edwards, 2014, p. 9). In the Barnhill (2016) study of 30 higher education institutions, she found that there were not enough professionals trained in autism spectrum disorders to meet the additional services needed for the students so not all students who wanted the additional support were able to participate. In the disability field of DSS directors, various educational degrees are accepted for entering a director role depending upon the higher education institution's requirements.

Knowledge comes in more forms than degree attainment. Some examples of where directors can gain additional information for supporting their offices include the following: DSS directors can benefit from reading current information such as OCR complaints, settlements, litigation, and advancing technologies Section 504 of the Rehabilitation Act, which addresses students in higher education. The professional networks are especially useful in locating quality services for SWDDs and listservs and online communication boards through professional organizations can provide prompt responses to questions that are occurring in real time.

Some offices have an assistive technology position available to support students, faculty, and staff members; whereas DSS leaders in other offices "assumed that the students were aware of the technology was available to them and that they knew how to get help with the devices or applications" (Edwards, 2014, p. 82). In a study of 139 postsecondary graduates, 22 percent of the participants indicated that they were taught to use assistive technology by a DSS staff person and when asked how much they learned from DSS staff, 12 percent indicated they learned everything, 55 percent indicated that they learned a lot (Sharpe, Johnson, Izzo, & Murray, 2005).

In general, studies have found that the perceptions of SWDDs were positive toward the functions of the offices and the staff members who provided the support (Lancaster, Mellard, & Hoffman, 2001). For this to continue and for SWDDs to choose enrollment at an institution, a

sufficient number of full-time equivalents (FTEs) within the office as well as staff members who are adequately trained are necessary for high-quality service. In addition to assistive technology personnel, staffing available at some institutions include American Sign Language (ASL) interpreters, note takers, scribes, readers, and tutors (Lancaster, Mellard, Hoffman, 2001). Higher education institution leadership and DSS directors must work to locate the appropriate levels of qualified staffing to meet the needs of the students they serve while attempting to balance budgets.

According to Gomez (2015c), directors must examine their own perceptions to broaden perceptions related to accessibility and career options. She writes that it is important to "work intentionally to expand your own mental model while at the same time educating others to help them do the same thing" (p. 2). Since technology advances quickly, there are careers and courses that may not have been accessible to people with certain disabilities in the past that are now open to opportunity. It is essential for directors to continually explore this so that students with disabilities are not being limited from a particular career path. This topic is addressed in further detail under the Reasonable Accommodations section.

Funding

In the study conducted by Edwards (2014) of six DSS leaders, they relayed that they are restricted by the budgets allocated to them. Lancaster, Mellard, and Hoffman (2001) had the same finding in that the lack of funding restricted efforts. Being understaffed due to underfunding was also described as a barrier for offices. In a study by Barnhill (2016), a population sample of 30 higher education institutions confirmed that a lack of funding was an issue in supporting students with Asperger's syndrome and autistic spectrum disorders. Directors

found creative ways to supplement their reach in spite of the funding barriers. VanBergeijk and Cavanagh (2012) recommended establishing programs for students with intellectual disabilities. These programs can generate revenue, access unoccupied residence halls during the summer, provide opportunities for students considering working in the field of disabilities, and benefit the SWDDs. Barnhill (2016) found that some institutions enhance funding by applying for grants while others engage the following supportive groups: faculty members whose area of research is students with disabilities, faculty and staff members who are passionate and wish to volunteer their time, and graduate students who need internship hours. The converse to this concept of the offices being underfunded is the resentment that may surface in that educating SWDDs costs more than educating SWODDs. When faculty members are already overburdened in their workload, spending additional time and resources educating SWDDs can increase the resentment toward them (Lancaster, Mellard, & Hoffman, 2001).

For institutions that have certain grant programs, the financial burden can be reduced from the general fund and added to the grant. TRiO programs are federally funded grants meant to provide services to students who are low-income, first generation college students, and SWDD. TRiO program offices are useful for a DSS office (Hamblet, 2016) as they can serve SWDD taking some of the financial burden off of the general fund when using the grant.

Office Location

In some higher education institutions, the office is centrally located, easily visible, and simple to locate. In the interviews conducted by Edwards (2014), the DSS professionals indicated that the offices represented were not a challenge to locate; however, the student interview did not support this. Consideration of the office location is important, especially for

students who are blind, low vision, or become easily lost due to their disabilities. Furthermore, an office that is easily visible and frequently passed by students as they go to class could increase the likelihood that the students will disclose a disability and request accommodations, or others supports, which will increase graduation rates for SWDDs.

Electronic Systems for Tracking and Supporting Students

According to the U.S. Department of Education (2007), "reasonable accommodations are modifications or adjustments to the job, the work environment, or to the way things are usually done that enable qualified people with disabilities to enjoy an equal employment opportunity." This also covers programs and academics in that reasonable accommodations could include adjustments to the application or an academic program, and adjustments that enable students with disabilities to enjoy equal benefits and privileges of a program as their peers without disabilities (U.S. Department of Education, 2007). The term "reasonable" in reference to accommodations is included in the ADA; however, it is not included in Section 504 of the Rehabilitation Act, which addresses students in higher education.

To improve efficiency and effectiveness in communicating with SWDDs and instructors, many DSS offices have elected to purchase a digital database. "Everything from requesting accommodations, communicating with their assigned DS specialists, and getting accommodation letters to instructors takes a lot less time" (Gomez, 2015b, p. 2). It also provides a simple way to send messages to all students with disabilities which can be helpful to remind them about scheduling exams, upcoming events, or inform them if there is construction in a particular area of campus. The systems can provide a universal way to communicate a message to faculty members regarding which accommodations are being implemented for which students in courses

that they teach. Reports can be pulled from the system for ease of analyzing data to improve services.

Reasonable Accommodations

The Americans with Disabilities Act (1990) mandates that postsecondary institutions must provide accommodations to students who have disclosed disabilities. The law states that "reasonable modifications in policies, practices, or procedures shall be required, unless an entity can demonstrate that making such modifications in policies, practices, or procedures, including academic requirements in postsecondary education, would fundamentally alter the nature of the goods, services, facilities, privileges, advantages, or accommodations involved" (Americans with Disabilities Act, n.d.). "Providing accommodations do not compromise the essential elements of a course or curriculum; nor do they weaken the academic standards or integrity of a course. Accommodations simply provide an alternative way to accomplish the course requirements by eliminating or reducing disability-related barriers. They provide a level playing field, not an unfair advantage" (Americans with Disabilities Act, n.d.; Barnar-Brak, Lectenberger, & Lan, 2010).

Accommodations are meant to allow students with disabilities equal access to course content without excessive financial burden to the student. The accommodations should not change the fundamental course content necessary for degree completion (Allen, 2009; Hudson, 2011). They are teaching supports and services provided to students with learning disabilities to assist them in completing the same work as students without disabilities (IDEA, 1990).

As previously described, accommodations that may be considered include audio texts, sign language interpreters, recorders, readers, or scribes (Gamble, 2000). In addition, Howlin,

Halligan, and O'Toole (2014) list accommodations including alternate exam locations, provide additional support with organization, demonstrate skills rather than only verbalizing them, provide written information in advance, provide lecture notes, use of a calculator, use of a dictionary, additional formats when possible such as diagrams or audiovisual mediums, exam readers, assisted technology, and extended deadlines for assignments. Garrison-Wade and Lehmann (2009) include oral testing and personal counseling as accommodations. Priority registration and guidance in completing forms was available at most of the institutions in the study conducted by Lancaster, Mellard, and Hoffman (2001). Priority registration allows SWDDs to select classes that fit within their particular needs before SWODDs choose their classes. Examples of this need include scenarios where students who use mobility devices and cannot quickly leave a classroom and move to another within a short time period; students who tire easily and cannot take several classes on the same day; students who only have drivers or other personal support staff available during certain times of the day. In the Lancaster, Mellard, Hoffman (2001) study, priority registration and registration guidance was available at most institutions with the SWDDs feeling generally positive about the process.

Determining which accommodations are reasonable and necessary and training students how to use them are generally the responsibility of the directors of the offices of disability services for students. In a study of 139 postsecondary graduates, approximately 69 percent indicated a rating of "Very Satisfied" with their accommodations from DSS and 85 percent felt the accommodations were appropriate to meet their academic needs (Sharpe, Johnson, Izzo, & Murray, 2005). In the Lancaster, Mellard, Hoffman (2001) study, students reported that the most important parts of accommodations included "effectiveness, availability, ease of use, and independence" (p. 6).

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After students have disclosed that they have a disability and require accommodations, the DSS office may provide a letter of accommodation (LOA) to faculty members, instructors, or teaching graduate assistants to inform them that accommodations are required (Barnar-Brak, Lectenberger, & Lan, 2010). The letter may be provided via email, a physical copy in their mailboxes, or supplied directly by the student. For those offices with electronic database systems, this may occur automatically after the accommodations are authorized within the system. Very few higher education institutions evaluate the effectiveness of the accommodations, and some expect that the SWDDs will inform them if the accommodations are not working well for them (Lancaster, Mellard, & Hoffman, 2001).

Examine Perceptions Relative to Advancements in Technology for Accommodations

Focusing only on accommodations for SWDDs may no longer be sufficient as technology expands the definition of accommodation so that it is a moving target. Dietrich (2014) explains that "Until recently, the focus to providing students with disabilities has been on accommodation. But with the sophistication of today's technology, that model is no longer effective. predictable. We need to shift to a wider focus on access" (p. 72). With the availability of advanced technologies, models of offices of disability services for students that were once acceptable may no longer be functional. Educational disciplines that were once unavailable to students with disabilities may now be open to them with the use of technology. Directors must consider these advancements prior to discouraging a student from pursuing a particular field. One example of technology advancement is a blind engineer who works for NASA. Without the advanced technology, this career path would not have been accessible to a blind person. "Marco Midon, an engineer in the microwave systems branch at NASA's Goddard Space Flight Center

in Greenbelt, MD, is blind and uses a computer program called Job Access with Speech, JAWS. It allows him to monitor and control test measurement equipment, track satellites, and evaluate electronic components for satellite transmissions" (American Association for the Advancement of Science, 2002, p. 12).

Another example of advancements in technology that create employment access is in regard to managing diabetes. In the early 1990s, some employers were allowed to exclude people with diabetes from certain careers as it could present a safety hazard for people who did not have an effective way to manage blood glucose levels. A case involving Jeff Kapche assisted in changing this. Jeff Kapche held a law enforcement degree and was hired as a police officer, but was rejected due to his type 1 diabetes (Griffin, 2013). "The courts acknowledged that new developments in diabetes care undermined the traditional view that people with diabetes could be automatically excluded" (Griffin, 2013, p. 346-347).

Technology is more accessible to students which is shifting the cost for some items from the institution to the student. Screen readers are available for blind or low vision students and those who have print disabilities such as dyslexia. For students with dyscalculia or disabilities that cause challenges with writing or typing, there are speech-to-text software programs that will display what the person verbalizes. There are a multitude of software programs for spelling, word prediction and grammar. There are many opportunities for students with disabilities to use technology to assist in leveling the playing field. Many students have their own adaptive technology and may only require support from the DSS office when their technology is not compatible with the higher education institution's systems. Many SWDDs come to the higher education with their own assistive technology that they have purchased and are comfortable using. Whereas in a study of 139 postsecondary graduates, 12 percent indicated that institutions

should purchase the assistive technology for SWDD and 15 percent indicated that DSS staff should be available to support the use of assistive technology (Sharpe, Johnson, Izzo, & Murray, 2005). More concerns arise when the assistive technology is not compatible with the systems at the institution, so access is unavailable to the SWDDs.

Student Advisory Board or Council

There are DSS offices that create a student advisory board (Garrison-Wade & Lehman, 2009). Not only can the student advisory board provide information to directors, students can learn to enhance their self-advocacy skills in this environment, as well as build relationships with other students with disabilities on campus. San Diego State University has a student advisory board whose intent is to: "review and make recommendations regarding policies, programs and procedures relating to students with disabilities; present concerns of students with disabilities on campus; and increase disability awareness in the campus community" (Hope, 2016b, p.2).

Disability Studies Major

"Disability studies has the potential to make people see that the world has been designed to exclude many people with disabilities from the wheel chair user to the person with cognitive or affective disorders" (Davis, 2005, p. 1). The presence of a disability studies' major or minor at an institution could potentially result in an increased number of students seeking volunteer opportunities, supporting an inclusive campus, and educating peers.

Summary

Survey questions were developed from the literature reviewed for this section for office

structure and characteristics portion of the components depicted in Figure 1. The following

section includes literature review regarding the partnership components depicted in Figure 1.

Internal and External Partnerships with the Office

Faculty Roles and Students with Disabilities

Many faculty members are not aware of accommodation needs or disability law for

students (Cook, Rumrill, & Tankersley, 2009; Lehman, Davies, & Laurin, 2000; Rao, 2004).

Barnard-Brak, Lechtenberger, and Lan (2010) conducted interviews of SWDD and learned that

they perceived that in general, faculty members did not understand the disability. This was likely

because the population of SWDD in higher education institutions may only be 10 percent, so the

faculty members did not have many interactions in working with SWDD. Moreover, "faculty

often do not understand the needs of these students or their own role in the accommodation

process" (Vogal, Fresko, & Wertheim, 2007, p. 486). A survey of over 200 faculty members

conducted by Vaske (2005) demonstrated that faculty members did not have adequate knowledge

of the law surrounding students with disabilities. If faculty members are not aware of the legal

obligations of their positions, they are unable to adequately meet the needs of the students with

disabilities. Harper and Quaye (2009) quote Greenbaum, Graham, and Scales (1995) "the most

common institutional barrier to success cited by students with disabilities was the lack of

understanding and cooperation from faculty and administrators" (p. 44).

The lack of understanding and cooperation could also be a function of faculty members

who are often concerned about academic freedom when providing accommodations to students

with disabilities (Salzberg et al., 2002). Dietrich (2014) explains that academic freedom applies to the content of the course, not the way in which it is delivered to the students. This information may be an educational piece for many faculty members. In the study by Jensen, McCrary, Krampe and Cooper (2004), they found that although the study participants wanted to provide accommodations to students with disabilities, "at the same time, there was distinct and overriding concern to protect academic integrity" (p. 83). A study conducted by Cook, Rumrill, and Tankersley (2009) found that faculty members demonstrate concern that the accommodations provide an unfair advantage. In the studies conducted by Lancaster, Mellard, and Hoffman (2001) and Timmerman and Mulvihill (2015), they found that SWODDs may present negative feelings or demonstrate negative attitudes toward SWDDs. Examples included SWODDs considered the accommodations as making the course easier for SWDDs instead of leveling the playing field, verbally making jokes about the disabilities, failing to yield elevators for those who required it, and parking in accessible spaces. The misunderstanding of what academic accommodations are actually meant to do for students with disabilities can create hesitancy by faculty members in providing the accommodations and hesitancy for students with disabilities in accessing the accommodations. Accommodations need to be implemented in a way that levels the playing field for SWDDs without compromising the academic rigor of the program or providing an unfair advantage to the SWDDs (Lancaster, Mellard, & Hoffman, 2001).

Faculty bias can also be a concern. In the study conducted by Kreider, Bendixen, and Lutz (2015), it is explained that "threaded throughout the interviews were sentiments of the stigma felt from instructors and other students" (p. 436). "Students had to find ways to cope with unsympathetic or disbelieving instructors" (p. 4375). According to Denhart (2008), students with

learning disabilities indicated a fear that if they disclosed a disability to faculty members or

sought accommodations that the faculty member may believe that they were incapable of

adequately completing the coursework. Garrison-Wade and Lehmann (2009) state that many

SWDDs are underprepared for postsecondary education which "exacerbates a long standing,

acknowledged issue regarding the attitudes of postsecondary instructors about teaching students

with labels" (p. 429).

When students have invisible or hidden disabilities, this can present another issue.

Faculty members and peers may have difficulty believing that the student actually has an

invisible disability adding to a concern regarding accommodations (Adams & Proctor, 2010;

Lancaster, Mellard, & Hoffman, 2001). To alleviate this concern between students and to

dissuade the idea that favoritism is being provided to SWDDs, some faculty members generalize

the accommodations to the entire class. For example, faculty members who are providing lecture

notes as an accommodation to a SWDD may provide lecture notes to all students in the course

(Barnar-Brak, Lectenberger, & Lan, 2010). This behavior is moving toward universal design by

providing access to all students without the necessity of requests for accommodations.

"Lack of willingness to accommodate and misconceptions could be prevented if

appropriate training were provided" (Gallego & Busch, 2015). Providing faculty support to

implement accommodations and demonstrating ways in which small changes toward

accessibility that are not significantly time consuming can benefit all students could assist in

changing faculty attitudes toward SWDDs (Lancaster, Mellard, & Hoffman, 2001). In the study

by Cook, Rumrill, and Tankersley (2009), they state, "there was a pervasive gap between

respondents' importance and agreement ratings. That is, the understanding of participants and

their colleagues about critical issues related to college students with disabilities did not match the

importance placed on the same issues" (p. 93). Thus, the survey responses from 214 directors in a study by Salzberg et al. (2002) found that the majority of directors felt it was difficult to gain faculty member attendance at professional development sessions. In a study conducted by Barnhill (2016) of 30 higher education institutions, 83 percent indicated that they trained their faculty members on Asperger's and autism spectrum disorder in face-to-face, individual sessions. Two-thirds of the respondents also indicated that the offered workshops, however, they did not generally have strong faculty attendance. Some of the survey respondents from the Salzberg et al. (2002) study of directors who did not have a concern about faculty participation indicated that the trainings were mandatory.

"Although existing faculty development initiatives have served a valuable role, faculty support and training must keep pace with the dynamic and evolving context of higher education" (Shaw & Scott, 2003, p. 6). The Salzberg, et al. (2002) study noted a need to provide professional development to faculty in the area of universal design and distance education. In addition to the content of the trainings, a study by Salzberg, et al. (2002) supported the need for many formats of professional development delivery including in-person training sessions and electronic media. Conversely, according to Sharpe, Johnson, Izzo, and Murray (2005), "In general, the results of this study would suggest that most accommodations provided to individuals with disabilities are those that involve relatively little complexity" (p. 10).

To become knowledgeable, reduce bias, and gain buy-in, faculty members could be a part of the solution in conjunction with experts on campus. "Faculty often do not participate in establishing diversity policies, and, as a result, they have no ownership of the policies of the institution" (McClouden, 2008, p. 43). Being that faculty members are critical to student success,

they must be invited to the table when considering policies and practices that affect the students

they instruct. McClouden (2008) describes this.

> If faculty members receive professional development, they will become more knowledgeable about the law, accommodations techniques, and it will help to put students and faculty on the road to success. If faculty members do not receive professional development, colleges/universities risk spending thousands of dollars on lawyers and litigations (p. 111-112).

Faculty members, instructors, and teaching assistants need to be partners with the office

for advancing the success of students with disabilities (Shaw & Dukes, 2005). Some courses are

taught by teaching assistants (TAs) under the supervision of a faculty member. In some academic

areas, the TAs are provided frequent contact with and guidance from their faculty supervisor. In

some large academic areas, this guidance proves to be a challenge resulting in less guidance for

the TAs on topics such as providing students with accommodations so even when the supervising

faculty member is aware of the law and accommodations, communicating that to the TAs could

be difficult. Gallego and Busch (2015) conducted a study that considered the preparation of

teaching assistants in providing accommodations for students with disabilities. Sixteen disability

service staff members responded, and 6.3 percent strongly agreed, 18.8 percent agreed, and 43.8

percent remained neutral on considering "TAs as unprepared to implement accommodations or

expressed concern about the decisions TAs make" (p. 396).

Despite the fact that the literature demonstrates faculty knowledge is lacking (Lancaster,

Mellard, & Hoffman, 2001; Wolf, Thierfeld Brown, & Kukiela Bork, 2009), Scott (1997) states,

"Surveys of faculty attitudes reveal that the large majority of faculty are willing to accommodate

students with learning disabilities but struggle with ethical concerns in balancing the rights of

students with learning disabilities with the academic integrity of the course, program of study,

and institution" (p. 2). In general, faculty members want to assist in providing academic

accommodations (Cook, Rumrill, & Tankersley, 2009; Jensen, McCrary, Krampe, & Cooper, 2004; Yssel, Pak, & Beilke, 2016), but they need guidance on how to do this in a way that is ethical, equitable, legal, follows the institution's practices and does not diminish the academic rigor of the course content. However, this is not the case for every faculty member, instructor, or TA (Lancaster, Mellard, & Hoffman, 2001).

If faculty members were knowledgeable and chose to use universal design in preparing their course materials, students with disabilities would not need to self-advocate or even disclose a request for accommodations to a professor or instructor. Not only can universal design be a part of classroom pedagogy for instructors, it can also be used by web designers, interior designers, and marketing staff members.

Universally designed courses are accessible to all students (Barnar-Brak, Lectenberger, & Lan, 2010). According to Trammell (2009), universal design should be the objective. "Accessibility is inherently included through flexible instruction and curricula and does not need to be readdressed for each new student with a disability" (Hadley, 2011, p. 80). Some practical application components of universal design include providing electronic handouts in advance of the particular class period in which the materials will be used. "Electronic format with adjustable font sizes is useful for those with lesser degree of impaired eyesight. In addition, the use of large fonts and colour-blind friendly colour schemes is also worth consideration when preparing pedagogies" (Roberts, Hou, Davies, Ferreira, Morris, N. & Morris, A., 2016, p. 149). These practices demonstrate "how the pursuit of inclusive education benefits all students, not just those with particular impairments" (Roberts, et. al., 2016, p. 149). A few more examples of universal design include "allowing students to turn in parts of a large project for feedback before the final project is due" and "class outlines and notes on an accessible website" (Hope, 2016b, p. 5).

Eliminating timed tests in favor of take-home projects resulting in SWDDs no longer requiring extended time on tests or reduced-distraction environments (Barnar-Brak, Lectenberger, & Lan, 2010).

Learning new ways to educate a diverse group of students can be challenging for faculty members, instructors, and graduate teaching assistants, especially, if they already have a significant workload. In the study conducted by Lancaster, Mellard, and Hoffman (2001), a few higher education institutions explained that working with students with disabilities takes more money and time than working with students without disabilities. This can be a significant concern for overloaded faculty members.

Staff Roles and Students with Disabilities

Further professional development for faculty members is necessary based on the literature (Burgstahler, & Doe, 2006; Cook, Rumrill, & Tankersley, 2009; Duggan, 2010; Eckes & Ochoa, 2005; Lehmann, Davies, & Laurin, 2000; Murray, Lombardi, Wren, 2011; Pacifici & McKinney, 1997). However, it is not only faculty members who require further professional development. The literature also indicates a need for further professional development for staff members in the areas of writing centers and tutoring labs (Lehmann, Davies, Laurin, 2000), as well as training student tutors (Finn, 1999). Peer tutors can be an excellent support; however, training for them is also lacking and necessary (Finn, 1999). This finding is supported in the study by Lancaster, Mellard and Hoffman (2001) where staff members stated that tutoring support was a strength of institutions; however, some of the SWDDs found that the tutors may do the assignments for them or did their own personal work instead of providing guidance to the SWDD. In a similar context, note takers may be students who are paid positions or volunteer

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roles. They may be students who are in the class and provide a copy of their notes to SWDDs. The SWDDs provided mixed reviews on the notes received, as well as indicated that the notes may be received late or the note taker may not be in the class during some periods. The SWDDs do not receive the same quality of content in the notes from each note taker (Lancaster, Mellard, Hoffman, 2001). To alleviate these concerns, training could be conducted by having students hold workshops for faculty and staff members regarding various types of disabilities and respective accommodations (Lehmann, Davies, Laurin, 2000).

Some DSS offices also provide training to academic advisors so they are aware of the functions of the DSS office and learn how to be allies to students with disabilities. However, the literature describes a barrier of adequate funding to meet these training needs (Pacifici & McKinney, 1997).

Internal Partnerships with Other Units

Partnerships for Mental Health

University counseling centers have staff members who need to partner with the DSS office (Adams & Proctor, 2010; Edwards, 2014) unless DSS has a counselor on-site. Additionally, university counseling centers may experience greater requests for testing for disabilities and letters of support for ESAs because of the increase in students with disabilities attending higher education (National Center for Education Statistics, 2014). Kogan, Schaefer, Erdman, and Scholenfeld-Tacher (2016) conducted a study of university counseling center staff perceptions and experiences related to ESAs. The online survey had 248 responses from directors of counseling centers and found that 56.9 percent of respondents almost never received a request for letters of support for ESAs, 31.05 percent received a request several times a year,

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9.68 percent received them at least once a month, and 2.42 percent received requests more than once a week. During the researchers' review of the general comments, there was a theme from counseling centers who had experienced requests for ESAs that they were "feeling concerned and anxious about this growing issue" (Kogan, Schaefer, Erdman, & Schoenfeld-Tacher, 2016, p. 276). "Written comments by those who said they recommended other resources indicated they felt it was outside their mission and either referred clients to resources for disabled students on campus or to off-campus resources such as a private practitioner for assessment of a disability" (Kogan, Schaefer, Erdman, & Schoenfeld-Tacher, 2016, p. 275). It is evident from this study that a strong partnership between the DSS office and the university counseling center could be beneficial.

Partnerships for Physical Space and Safety

In addition to considering the staff roles in writing centers, tutoring labs, and university counseling centers, internal partnerships between these offices and the DSS office will benefit students with disabilities in implementing the law, streamlining processes, and outlining clear guidelines and procedures. Residence Life and the DSS office must have a strong relationship as well (Edwards, 2014). In the study conducted by Lancaster, Mellard, and Hoffman, few higher education institutions offered accessible housing. Residence Life staff members must work closely with DSS staff members to assure housing accommodations are appropriate and implemented. Accommodations may include a residence hall or apartment physically near the student's classes, consideration of location relative to service or emotional support animals if severe allergies are present, the need for single rooms, or the requirement of an air-conditioned room.

As addressed under counseling centers, according to Taylor (2016), Kogan, Schaefer, Erdman and Schoenfeld-Tacher (2016), and Masinter (2015b & 2016b), there is an increase in the number of requests for ESAs on campus. The increase includes accommodation requests for all types of animals including exotic animals. Some DSS and Residence Life offices have joint policies and procedures in place for determining which students are permitted to have ESAs in their residence halls and where students with ESAs reside. "This policy must be posted in housing and on housing websites" (Sutton, 2016, p. 9).

A collaboration between DSS and Residence Life will assist in understanding necessary policies and rights of students who have service animals versus therapy animals. Service animals are trained to perform tasks for a person with a disability. "Under the Title II and III of the ADA, service animals are limited to dogs" (Brennan, & Nguyen, 2014, p. 2). In some instances, miniature horses are also permitted (Kogan, Schaefer, Erdman, & Schoenfeld-Tacher, 2016). Therapy animals, comfort animals, assistance animals, or emotional support animals are not limited to dogs and are different from service animals. ESAs are not covered under Title II and III of the ADA. The Fair Housing Act is the law that obligates higher education institutions to consider accommodation requests for ESAs when the animal is "necessary to provide equal use and enjoyment of housing" (Masinter, 2016b, p. 3). "These animals provide companionship, relieve loneliness, and sometimes help with depression, anxiety, and certain phobias, but do not have special training to perform tasks that assist people with disabilities (Brennan, & Nguyen, 2014, p. 3). "For many the topic is also a contentious one centered on whether students are taking advantage of the laws" (Kogan, Schaefer, Erdman and Schoenfeld-Tacher, 2016, p. 273).

The DSS office and the Residence Life office need to understand the differences between service animals and ESAs as there are separate laws and requirements that apply to each. For

example, people who have service animals are legally permitted to accompany the handler where the public is allowed to frequent. If there is not an obvious disability and service task that is easily identifiable, there are limited questions that may be asked. "Two questions may be asked of the handler: 1. Is the animal required because of a disability? 2. What work or task has the animal been trained to perform?" (Brennan, & Nguyen, 2014, p. 4 - 5). Although ESAs are not service animals, there are protections extended under the Fair Housing Act, FHA, for handlers of these animals. In this case, the person with the ESA may be asked for documentation for the accommodation of an ESA. "They can ask a person to certify, in writing, (1) that the tenant or a member of his or her family is a person with a disability; (2) the need for the animal to assist the person with that specific disability; and (3) that the animal actually assists the person with a disability" (Brennan, & Nguyen, 2014, p. 6 - 7).

Additional considerations must be made for students whose faiths do not allow them to be touched by certain species of animals, students who have phobias in regard to some animals, and students who have allergies (Hope, 2015a). Although these considerations need to be taken into account, they will not be a determining factor as to the allowance of the ESA, but could be aid in determining where the handler and animal would live.

Study Abroad Partnerships

Partnerships between DSS and the higher education institution's study abroad office are useful so that study abroad opportunities that are offered are accessible to all students. This can present a significant challenge as there are different laws (or sometimes no laws) governing the rights and protections of people with disabilities in countries outside of the United States. This can be particularly challenging for students with physical disabilities when participating in study abroad within countries that are designated as developing. The study abroad staff experts can

collaborate with DSS staff members to learn the necessary accommodations and provide recommendations. A report from Mobility International USA compared data from a 2006/07 report to a 2016/17 report and found that SWDD who reported having study abroad opportunities increased from 1,006 to 7,424 (Open Doors, n.d.).

Partnerships with Facilities Management

Collaborations with facilities management can assist in providing necessary curb cuts, appropriate ramp grades, acceptable pressure for opening doors, lighting that does not produce a buzzing noise or does not flicker, and so on. Excellent relationships with landscape services can contribute to snow removal and cleared sidewalks in a timely fashion providing priority to the areas where students using mobility devices travel to and from classes and activities.

Partnerships for Office Visibility

Other internal partnerships that would benefit DSS offices include working with admissions to assure students who are new to campus are provided with information about DSS. Information that is sent by admissions to admitted and prospective students should include information about the DSS office and how to register (Hamblet, 2016). In the study conducted by Lightner, Kipps-Vaughan, Schulte, and Trice, (2012), lack of knowledge was cited as a theme for reasons why students with disabilities did not register with the DSS office. Working with orientation staff to have a presence at welcoming events for new students can increase awareness of the DSS office (Hamblet, 2015).

Partnerships between the DSS office and retention programs (Adams and Proctor, 2010) is also essential as it is possible that some of the students engaged in the retention programs have disabilities that have not been disclosed and connections could be made for those students.

Partnerships with Centralized Units

A close relationship with the purchasing office and the office of information technology is helpful as some institutions ask the vendor if the software is accessible without evaluating it themselves. This can result in purchasing software that is not accessible to all students. Moreover, although public educational institutions are required to supply accessible software, vendors are not required to produce it (Hope, 2015b). There is a gap between what faculty members and instructors would like to use in the classroom and what is actually produced in accessible formats by vendors.

Since, in general, faculty members want to assist in providing academic accommodations (Cook, Rumrill, & Tankersley, 2009; Jensen, McCrary, Krampe, & Cooper, 2004; Yssel, Pak, & Beilke, 2016), but they need guidance on how to do this in a way that is ethical, equitable, legal, follows the institution's practices and does not diminish the academic rigor of the course content, it is presumably useful for the DSS office to have partnerships with the institution's legal counsel to assist in providing guidance to faculty members.

Another important internal relationship for the DSS office is the institution's library. After the OCR resolution at the University of Montana, "the library has changed its priorities for purchasing" in an effort to be inclusive (Hope, 2015b, p. 5). Relationships with the university health center, the office that supports veterans, TRiO program offices are also essential for a DSS office (Hamblet, 2016) as they can serve SWDD taking some of the financial burden off of the general fund when using the grant. Building relationships with campus safety or campus police officers is important for the DSS office (Barnhill, 2016). It is sometimes necessary to include their efforts when situations with students arise including students who may be suicidal (well checks), students whose behavior is not socially acceptable, and students whose

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medications may not be appropriately balanced causing erratic behaviors. Partnerships with academic advisors and staff members in the office of transfer students can assist in communicating to students that your office is available to support them and guide them to be excellent allies for students.

Partnerships between DSS and financial aid offices are also useful. Traditionally, only full-time students could apply for and receive financial aid (VanBergeijk & Cavanagh, 2012). Some institutions now allow SWDDs who are enrolled part time to be considered full-time students for financial aid consideration as a full-time course load may be too much for students with certain types of disabilities. Parts of the reauthorization of the Higher Education Opportunities Act (HEAO) of 2008 allowed for this change to occur, opening the doors to students with intellectual disabilities. However, the change does not provide access to federal loans (VanBergeijk & Cavanagh, 2012). "The HEOA created a new category for comprehensive transition and postsecondary programs in higher education that would allow students attending these programs to receive financial aid" (Edwards, 2014, p. 27). Institutions may provide social security tuition waivers for SWDDs and provide scholarships for SWDDs (Lancaster, Mellard, & Hoffman, 2001).

Some higher education institutions offer employment support for SWDDs in collaboration with the Office of Career and Student Employment Services. This could include job seeking skills training and job placement, as well as career counseling (Lancaster, Mellard, & Hoffman, 2001). Other institutions provide workshops where SWDDs learn when to disclose a need for accommodations to prospective employers along with learning other employment-related skills that SWODDs learn such as resume building, interviewing, and ways to be an effective employee.

In summary, whatever employment role a person holds at a higher education institution, many students with disabilities have challenges discussing their disability with people who are not familiar with the disabilities. Many students with disabilities would prefer to keep this part of themselves private (Lancaster, Mellard, Hoffman, 2001). Since self-disclosure is necessary to receive accommodations, students who have a relationship and rapport with a person employed at their higher education institution who is knowledgeable of the accommodation process can be a strong benefit for the student (Barnar-Brak, Lectenberger, & Lan, 2010).

External Partnerships

External partnerships are necessary for the effective operation of the DSS office. One of the reasons for this importance is that a "successful transition to college opens the door for future economic success, social power, and personal well-being" (Milsom & Hartley, 2005, p. 436). However, there are impediments to a successful transition. Students need to be aware of the DSS office and be encouraged to register as there may be reluctance to disclose a need for accommodations, as previously discussed (Barnar-Brak, Lectenberger, & Lan, 2010; Hamblet, 2015). Janiga and Costenbader (2002) learned that DSS directors did not believe that students transitioning from high school to higher education received the necessary information before making the transition. Garrison-Wade and Lehman (2009) state that "High school counselors, teachers, families, and students should seek information about college standards, entrance requirements, and students' legal rights and responsibilities" (p. 435-436). The documentation needed to obtain the supports are different from high school to higher education (National Joint Committee, 2007) and students may not be prepared to address this difference. In its current state, special education in secondary education provides a greater likelihood that the students

with disabilities will graduate from high school; however, it does not provide an increased indicator of graduation from higher education (Berzin & Kelly, 2009). Lightner, Kipps-Vaughan, Schulte, and Trice (2012) believe that the transition plan could be strengthened as they wrote, "transitioning students need to be provided with information about the range of benefits provided by ODS and parents need to be enlisted by transition personnel to get them to ODS" (p. 153). Communicating with high school special education teachers, invitations to high school IEP meetings where the transition plan is discussed, and connecting with local disability-related organizations to provide presentations can all be areas for outreach (Hamblet, 2015). In a study conducted by Edwards (2014), four out of six DSS professionals interviewed indicated the importance of the transition. Three of the interviewees are on transition councils; whereas several participants indicated physically going to the high schools to support transition process either by speaking to teachers or by attending the IEP transition meetings. This is supported by the work of Lechtenberger, Barnard-Brak, Sokolosky, and McCrary (2012) who suggests wraparound support in higher education. The team may include DSS office staff, rehabilitation agency staff, faculty members, and the student.

Some higher education DSS staff members visit secondary education special education classes or invite the students to visit the DSS office as a part of easing transition and enhancing recruitment; however, more institutions do not focus on recruitment for SWDDs than those that do (Lancaster, Mellard, & Hoffman, 2001). Additionally, high school transition programs can include guidance on information management such as what information to share with whom at what time. This can assist in alleviating some of the risk of disclosing a disability (Trammell, 2009).

First Summary

Survey questions were developed from the literature reviewed in this section for internal and external partnerships. Questions were asked regarding types of internal offices partnerships, types of external office partnerships, and related policies and procedures for ESAs. The following section provides a literature review on programming opportunities offered through the DSS office.

Disability Services for Students Programming Opportunities

Students with Disabilities and Self-Advocacy

This section is in alignment with Student Identity Development Theory as self-advocacy is a component of this theory. In 1969, Chickering offered seven developmental points that contribute to identity development that were later updated in 1993 by Chickering and Reisser. The seven vectors included: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal, relationships, establishing identity, developing purpose, and developing integrity (Chickering & Reisser, 1993).

Of course, students must be comfortable with their own identity and be able to articulate their needs before they can advocate for those needs. In addition to the professional development for faculty and staff members previously discussed, students with disabilities need to be taught self-advocacy skills (Adams & Proctor, 2010; Janiga & Costenbader, 2002; Wolf, Thierfeld Brown, & Kukiela Bork, 2009). Students with disabilities should understand the laws that protect their rights (Eckes & Ochoa, 2005) and how their disability impacts their education (Adams & Proctor, 2010) so that they are able to use their self-advocacy skills. In a case study of 42 university students with learning disabilities, only one student understood the difference between

IDEA and Section 504 of the Rehabilitation Act and ADA (Lightner, Kipps-Vaughan, Schulte, &

Trice, 2012). Although the law requires a transition plan from high school to higher education, it

is not a requirement to share the information with the staff at the higher education institution

(Eckes & Ochoa, 2005). "Services and supports received in primary and secondary education

may not adequately prepare students with disabilities to address issues with transition to post-

secondary education" (Kreider, Bendixen, Lutz, 2015, p. 427). Students and their advocates from

high school generally create the plans with passive contribution from the student under IDEA

(Kreider, Bendixen, Lutz, 2015).

"In contrast, under the Americans with Disabilities Act and Section 504, institutions of

higher education provide reasonable accommodations only when requested by the student"

(Kreider, Bendixen, Lutz, 2015, p. 427). To receive accommodations, students in higher

education must disclose that they have a disability and request the necessary accommodations

(Yssel, Pak, & Beilke, 2016). To prepare students for this, high school transition staff could

encourage a more active role in the IEP meeting for the students with disabilities (Cobb &

Alwell, 2009). In their study of 42 students with learning disabilities enrolled in a university,

Lightner, Kipps-Vaughan, Schulte, and Trice (2012) found that the university students that

recalled their participation in the IEP meetings in high school had an increased likelihood of

registering with the DSS office early in their academic careers. However, in a study conducted

by Cobb and Alwell (2009), they found that making time to include transition planning in the

established IEP meetings can be a challenge for high school staff members and suggested a

separate time from the annual IEP meetings to focus on transition planning.

For some students that are not yet comfortable with their own identities or who fear

discrimination, the disclosure piece can be a barrier (Barnar-Brak, Lectenberger, & Lan, 2010;

Getzel and Thoma, 2008; Kreider, Bendixen, & Lutz, 2015; Lightner, Kipps-Vaughan, Schulte, & Trice, 2012). In the study conducted by Lightner, Kipps-Vaughan, Schulte, and Trice (2012) where they interviewed 42 students with learning disabilities attending a university, 56.7 percent did not identify as having a disability. Without acknowledgement that the disability is present, no accommodations would be sought. "Disclosure involves sharing potentially harmful information and is inherently risky" (Trammell, 2009, p. 23). "Disclosure should lead to accommodation, but it can lead to discrimination, as well" (Trammel, 2009, p. 23). A study conducted by Anctil and Ishikawa (2008) found that students with greater knowledge of their disability, along with strong conflict resolution and self-advocacy skills were more likely to receive their academic accommodations.

Establishing identity is a part of the Student Identity Development Theory vectors described by Chickering and Reisser (1993). Some students may choose to deny this part of their identities. Getzel and Thoma (2008) stated that "these students may be anxious for a 'new beginning' in an educational setting by not having to deal with being labeled" (p. 77). Disability stigma is still a concern that may cause students to put off registering with DSS (Adams & Proctor, 2010; Barnard-Brak, Sulak, Tate, & Lechtenberger, 2010; Kreider, Bendixen, & Lutz, 2015; Lightner, Kipps-Vaughan, Schulte, & Trice, 2012). In a study conducted by May and Stone (2010), 42 percent of their total sample of 138 reported that they felt people considered students with learning disabilities less intelligent than students without learning disabilities.

Disability stigma may lead students to delay applying for accommodations. Some of the students who delayed registering with the DSS office later realize that the accommodations are necessary. In a 2012 study, students who registered with DSS later in their academic careers did so because of academic difficulties or with encouragement from a faculty member (Lightner,

Kipps-Vaughan, Schulte, & Trice). If the student makes this realization that academic accommodations are necessary after a semester or two seeking accommodations at that time, the student's grade point average may have already been adversely affected (Hamblet, 2015). In a case study conducted by Lightner, Kipps-Vaughan, Schulte, and Trice (2012), if students with disabilities registered with DSS at the end of the first semester of the sophomore year as opposed to in their first year, there was a statistically significant difference in GPAs and credits earned. Students who registered earlier had higher GPAs and earned more credits. In their study of 230 students, Adams and Proctor (2010) found that the accommodations and services provided by the DSS offices were effective. Thus, demonstrating the importance for students with disabilities registering early with the office. With strong partnerships between faculty members and the DSS office, students could be encouraged by faculty members to connect with DSS early in their academic careers.

In a study by Kreider, Bendixen, and Lutz (2015), "several students reported strategizing as to when they should invoke their academic accommodations" (p. 435). If students with disabilities decide to register with the DSS office, they still may need to have a conversation with the instructor, faculty member, or graduate teaching assistant to clarify accommodations, discuss how best to implement the accommodations, and what they mean for a particular course (Barnar-Brak, Lectenberger, & Lan, 2010). Some students may choose not to have the conversation with the faculty member in hopes that they will not need to use the approved accommodations (Kreider, Bendixen, & Lutz, 2015). For other students, initiating a conversation or providing an accommodation letter to the instructor or professor is a challenge as the topic of accommodations informs the faculty member that the student has a disability, which the student can viewed as stigmatizing (Barnar-Brak, Lectenberger, & Lan, 2010; Timmerman & Mulvihill, 2015;

Trammel, 2009). "Disclosing information about one's disability may be comfortable and therapeutic to one person with a disability yet an awkward and even intimidating experience for another" (Barnar-Brak, Lectenberger, & Lan, 2010, p. 413). "The academic accommodations process for SWDs steps out of the realm of typical interpersonal discourse as the process requires disclosing what would normally be personal and privileged information to an essential stranger, a faculty member (Barnar-Brak, Lectenberger, & Lan, 2010, p. 413).

As previously discussed, self-advocacy skills could be strengthened during the development of the transition plan from high school to higher education. A professional from the higher education institution could offer a session at the high school for students with disabilities (Eckes & Ochoa, 2005). At this time, students can also be informed about the documentation needed to receive accommodations (Lehmann, Davies, Laurin, 2000). In addition to receiving information about accommodations, explaining other services available to students may encourage early registration (Lightner, Vaughan, Schulte, & Trice, 2012).

To encourage the transition toward self-advocacy, institutions of higher education can involve parents and families (Cobb & Alwell, 2009; Eckes & Ochoa, 2005) with the support and approval of the student. The research conducted by Edwards (2014) of DSS leaders found that involving parental support was a common and necessary component in the transition process for students with autism spectrum disorder. According to the studies conducted by Lightner, Kips-Vaughan, Schutle, and Trice (2012) Anctil and Ishikawa (2008), the majority of the students received information about the DSS office from family members or friends as opposed to high school transition staff members.

The seven vectors of Student Identity Development Theory by Chickering and Reisser (1993) include vectors that support self-determination and self-advocacy in developing

competence, managing emotions, and moving through autonomy toward interdependence. "In order to support successful transitions for students with disabilities, self-determination and self-advocacy training should encompass facilitation of self-management of academic, health and wellness, social and daily life activities (e.g. budgeting, determining priorities) within the context of managing collegiate and disability related demands" (Kreider, Bendixen, & Lutz, 2015, p. 438). Although there are a significant number of studies supporting self-advocacy and self-determination as a necessary component and area of weakness for students with disabilities (Yssel, Pak, & Beilke, 2016), Lightner, Kipps-Vaughan, Schulte and Trice (2012) wrote, "we find little evidence of a lack of self-advocacy skills, but rather a lack of knowledge about what to advocate for and why" (p. 156). In a study conducted by Barnard-Brak, Lechtenberger, and Lan (2010), many SWDDs utilized scripts when discussing accommodations with faculty members to assist them in effective communication. If DSS offices can assist SWDDs in creating scripts for discussion with faculty members, verbally rehearse the conversation, and encourage interpersonal conversations with the faculty members, the communication between the student and the faulty member could be more effective and less burdensome and intimidating for the SWDDs. This will also assist with students with disabilities who tend to downplay their disability as this strategy is not effective for receiving and implementing the necessary accommodations (Barnar-Brak, Lectenberger, & Lan, 2010).

Some DSS offices offer additional support beyond accommodations for a fee (Gomez, 20015a). The programs offered support Student Identity Theory in approaching student needs holistically including the seven vectors identified by Chickering and Reisser (1993) of developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal, relationships, establishing identity,

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developing purpose, and developing integrity. These fee-based supports can include early move-in programs to acclimate students with disabilities to life on campus prior to beginning class, social skills support for students with autism such as eating in cafeterias, making friends, living with roommates, joining student organizations, and setting up schedules (Wolf, Thierfeld Brown, & Kukiela Bork, 2009). This type of early-move in or summer program is also recommended for students with intellectual disabilities (VanBergeijk & Cavanagh, 2012). In a study of 30 institutions regarding students with Asperger syndrome or autistic spectrum disorder, Barnhill (2016) found the average annual fee for additional services and supports was $6,525. An example of this type of transition program is the Spectrum Summer Program in Arizona or the College Internship Program (CIP). The cost can be $4,000 or higher, which could be burdensome or unattainable for some families (Edwards, 2014). Some institutions applied for and received grants to support the additional programming (Barnhill, 2016).

Service and Emotional Support Animals

Emotional support animals (ESAs) living in residence halls are covered under the Fair Housing Act. They may be referred to as companion animal, therapy animal, assistance animal, or emotional support animals. If a student requests an accommodation to bring an ESA into a classroom, different considerations are followed. ESAs are not service animals and are not covered under the Department of Justice service animal laws. When students request an accommodation for an ESA in the classroom, the same protections would apply as with any other accommodation so the laws that apply are the Rehabilitation Act and Section 504 of the Americans with Disabilities Act. The request needs to have:

> individualized consideration, asking whether it is necessary to afford equal access
> (i.e. is it really an accommodation or just something the student wants for

comfort?), If it is truly necessary for equal access, DS providers should then ask whether it is reasonable (since not all accommodations are reasonable), using the same Section 504 and ADA standards they would apply to any other request for an accommodation (Masinter, 2015c, p. 3).

Some DSS offices have programs that provide students, faculty, and staff opportunities to interact with therapy animals on campus. These programs can be provided before or after exams, on a periodic set schedule, or on a long-standing basis. In these programs, students are offered an opportunity to interact with a therapy animal supported by a trained handler without the additional responsibilities of caring for an animal in campus housing.

Students with Disabilities and Transition from High School

External partnerships with secondary education staff was previously discussed. This section provides further information on the transition as "high schools play a significant role in ensuring that students with disabilities receive the training needed to inspire them to go college" (Garrison-Wade and Lehmann, 2009, p. 436). However, despite the mandate of transition planning under IDEA from high school to higher education, it has been described by the literature as inadequate (Shogren & Plotner, 2012). The study by Garrison-Wade and Lehmann (2009) supports this stating that "many students with disabilities are not expected to attend college" (p. 419). Because of this, "Study participants identified college preparation as a major high school system weakness. Specifically, they indicated that academic planning for college was inadequate because students did not take the requisite college predatory classes" (Garrison-Wade & Lehmann, 2009, p. 422). To further describe the difficulties students with disabilities face when transitioning from high school to postsecondary education, Garrison-Wade and Lehmann (2009) discussed a study of 59 students with disabilities at six community colleges. "Coordinators believed that students anticipated that he college courses would be easy and that

they would receive highly structured support showing them how to complete course requirements" (Garrison-Wade & Lehmann, 2009, p. 422).

Transition services from high school can be an important connection with external partners. Milsom and Hartley (2005) describe four areas of focus for transition planning: knowledge of disability, knowledge of postsecondary support services, knowledge of disability legislation, and ability to self-advocate. Classes can be offered in postsecondary education with topics in these areas to support students who plan to graduate from high school and enroll in college. Kato, Nulty, Olszewski, Doolittle, and Flannery (2006) suggest postsecondary academies to increase the rates that students with disabilities attend college and graduate. The postsecondary academies are offered to students with disabilities who are juniors and seniors in high school. They are one-day courses that include tours, student panels, guidance on self-advocacy and navigating processes within an institution, as well as sessions for parents, families, teachers, and support systems. Barnhill (2016) conducted a study of 30 higher education institutions and learned that 23 percent of the institutions offered transition programs in the summer for students with Asperger syndrome and autistic spectrum disorder from a three-day institute to a six-week long program. The Lancaster, Mellard, and Hoffman (2001) study of nine higher education institutions found that campus orientations were conducted at most institutions; whereas DSS open houses, personal orientations, and tours were conducted at some of the institutions. For the institutions with less personal attention, there was confusion and disappointment expressed from the SWDDs.

Courses for Students with Disclosed Disabilities

Courses directed specifically to students with disclosed disabilities is a way to enable the SWDD to be successful in their transition to postsecondary education. In addition to early move-in programming opportunities and courses for students with Autism Spectrum Disorders and intellectual disabilities, training opportunities for SWDD on self-advocacy and self-determination skills could be a function of the DSS office as many teachers at the secondary level may not feel prepared to provide this training. This could be conducted through role-playing disclosure of a need for accommodations and facing doubt from peers and faculty members regarding the need for the accommodations (Adams & Proctor, 2010). Another class for SWDDs that is offered at some higher education institutions is a course on adaptive technology use (Lancaster, Mellard, Hoffman, 2001).

Students with Disabilities and Engagement

Student engagement assists students with disabilities in persisting (Agarwal, Calvo, & Kumar, 2014; Lombardi, Murray, Gerdes, 2012; Mamiseishivili & Koch, 2012; Troiano, Liefeld, & Trachtenbert, 2010). Student engagement may include involvement in activities and interactions with peers, faculty, and staff members, attending appointments with disability services providers, and academic advisors, as well as social supports including peer mentoring, supervised planned social activities, and registered student organizations. However, engagement is often restricted by a lack of time or energy after the rigors of academics and health-related needs (Kreider, Bendixen, & Lutz, 2015).

Social supports can benefit SWDDs as they may not come to the attention of faculty or staff members if they are succeeding academically; however, isolation could be a concern that

needs to be monitored (Adams & Proctor, 2010). In the Adams and Proctor (2010) study of 230 students, students with disabilities are more likely to attribute failures or negatives occurrences in their lives as being due to their own faults. Thus, it is important to assure the students have a social network to support them when needed. Students may need regularly scheduled meetings with a counselor and a peer social support organization to combat isolation or a tendency to withdraw (White, Ollendick, Bray, 2011).

Social networks and overall student engagement are important parts of retention for all student including students with disabilities. In a qualitative study of 13 students with disabilities in postsecondary education, Kreider, Bendixen, and Lutz (2015) stated that "participants voiced frustration with what they perceived as a disproportionate emphasis on classroom supports with far less support or understanding for disability related difficulties in prioritizing and managing organizational aspects of health, domestic and/or social demands associated with the university student role" (p. 433). "Participants discussed the importance of learning how to create and maintain living spaces, daily schedules, and dietary and health routines appropriate for managing their particular symptoms or health condition" (Kreider, Bendixen, & Lutz, 2015, p. 433-434). Additional areas that are important but are not academic include the Anctil and Ishikawa (2008) study that discusses non-academic ways (success in sports or 4H) for students with disabilities to gain self-advocacy skills and learn strengths and weaknesses.

"More students are connecting with each other and finding ways to build communities" (Hadley, 2011, p. 79) which can lead to greater activism (Hadley, 2011). DSS offices can assist in providing opportunities for students to interact with one another to build community. There are challenges to providing these opportunities. In the study by Lancaster, Mellard, and Hoffman (2001), participants at nine higher education institutions were studied through interviews,

questionnaires, and discussion panels. A finding was that some SWDD missed field trips because the facilities off site were not accessible to the students; thus, limiting SWDD opportunities to connect with their peers without disabilities.

Peer Tutoring and Mentoring

Peer tutoring and peer mentoring are services often commonly offered for students with disabilities that increase engagement and academic progress (Lancaster, Mellard, & Hoffman, 2001; Vogel, Fresko, & Wertheim, 2007). According to Garrison-Wade and Lehmann (2009), mentoring and networking are essential for student success. In a research study of 480 students, both the tutors and tutees were satisfied with the services offered and would recommend the program to others (Vogel, Fresko, & Wertheim, 2007) so there are reasons for the work to continue.

Marketing and Promotion of the Office of Disability Services for Students

In the study conducted by Lightner, Kipps-Vaughan, Schulte, and Trice (2012), a theme emerged regarding lack of knowledge as a reason students with disabilities did not register with the DSS office, but also because the students were not aware of the full scope of services offered. If students understand that the office does much more than approving accommodations, students may find another reason to come to the office. In doing so, they may reconsider registering with the office and using the accommodations that level the playing field for them. Lightner, Kipps-Vaughan, Schulte, and Trice (2012) found that students lacked accurate knowledge about DSS offices and the services offered as well as the procedures to access these services. It is important for DSS offices to promote their work widely and with use of many venues. Social media

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platforms are a way to make students aware of the office, promote events, as well as provide students, faculty, and staff with information regarding disabilities in an effort to eliminated false ideologies. It is important for directors to be intentional about postings and provide diverse representation when posting to social media platforms (Gomez, 2015d). Electronic newsletters are another positive way to increase awareness about the DSS office and working with students with disabilities (Gomez, 2015d). Promotion of the office and training from the perspective of the SWDDs through personal stories is a powerful message (Mellard, Lancaster, & Hoffman, 2001) that could be offered through videos and student panels. These opportunities can also assist the SWDDs in using their self-advocacy skills while providing promotion of the office, encouraging a paradigm shift in thinking for employees, and teaching ways to accommodate SWDDs while benefitting all students.

In the study conducted by Kreider, Bendixen, Lutz (2015), not all of the 13 student participants were aware of the DSS office until they were struggling academically. The students were informed about the existence of the office through faculty members, the health center, or family members. Edwards (2014) interviewed six DSS professionals who described information about their office on the materials received by incoming students. Administration expects the DSS staff to be present at open houses and prospective student events according to the DSS professionals interviewed by Edwards (2014). However, Edwards (2014) indicated that DSS leaders assumed that if they included information on their websites, the students would have access to it.

It is not only important to promote the office to prospective and current students and their support systems, but it is also necessary to promote the office functions and programs to faculty and staff members. In the Lancaster, Mellard, and Hoffman (2001) study, they found that faculty

and staff members would benefit from written materials and videos to share during staff meetings; however, these materials were generally already available on websites. The employees were just unaware of what was available to them.

Student Identity Development Theory Framework

The primary focus of the Student Identity Development Theory is under the programming support component in Figure 1 as this theory encompasses the student's entire identity instead of only one piece related to academic access. Directors may consider the student as a whole instead of only focusing on the academic pieces of a student's identity, which is necessary because retention does not only focus on the classroom. Student engagement in the postsecondary education experience is a contributing factor. This theory is a foundational theory. In 1969, Chickering offered seven developmental points that contribute to identity development that were later updated in 1993 by Chickering and Reisser. The seven vectors included: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal, relationships, establishing identity, developing purpose, and developing integrity (Chickering & Reisser, 1993). The seven vectors are meant to demonstrate how a student's development in college affects them, with emphasis on the student's identity formation. A student's identity formation is particularly important for this study in that SWD must first identify with having a disability prior to informing the office of necessary accommodations. SWD must have self-acceptance and then also form a sense of self-esteem understanding that disability can be celebrated instead of seen as a deficit. Offices with a medical model or those that use disability-first language may dissuade students from obtaining their full potential in this area. Institutions that are not inclusive of SWD in their marketing materials may

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not feel valued by others. Chickering and Reisser (1993) offer the following relative to development of identity: "(1) comfort with body and appearance, (2) comfort with gender and sexual orientation, (3) sense of self in a social, historical, and cultural context, (4) clarification of self-concept through roles and life-style, (5) sense of self in response to feedback from valued others, (6) self-acceptance and self-esteem, and (7) personal stability and integration" (p. 49). DSS offices can offer programming and interactions with staff members to assist in guiding students with managing emotions, understanding themselves, having pride in who they are, owning their disabilities, and moving toward interdependence. Various programs offered through the DSS offices and their partners can be an opportunity for SWDD to develop and grow into mature adults who have self-acceptance.

Student Identity Development Theory is an essential lens for this study because there are various DSS office models. Some of those models may consider the entire student experience at the institution and offering programs that allow the students to explore and develop into mature adults who have pride in who they are without seeing their disability as a burden. Other DSS office models may only focus on assuring academic accommodations are supplied for the students. Learning which model is most effective for graduating SWDD is useful to DSS directors and postsecondary institution leaders.

Punctuated Equilibrium Theory Framework

Punctuated Equilibrium Theory suggests that changes would be based on periods of predominate stability punctuated by sudden major changes rather than constant, incremental change. Major changes impacting the broader institution could present barriers; limited by the institution's board of trustees, senior leaders, faculty members, and staff members; limited by the

culture of their institution; limited by available resources including financial support, staffing, and physical space; and limited by the priorities in the institutional and public view. Within the framework of Punctuated Equilibrium Theory, "friction is a term used to account for the difficulty in the process of making policy changes" (Flink, 2017, p. 105). The greater number of barriers that are present increases the amount of friction. "Explanations for the punctuations have centered on institutional friction and disproportionate information processing" (Flink, 2017, p. 101). Major changes stem from a shift in attention can be caused by a focusing event or some type of crisis, as well as a change in the audience or venue, and positive feedback to push past the resistance (McNew-Birren, 2015).

The primary focus of this theory is under the structure component in Figure 1, however, each of the areas described in the literature review provide opportunities for directors to determine if their operations are effective at graduating SWDD. The directors can consider areas where their office and institution can enhance operations to offer an office structure, supports, and programming that encourage the highest graduation rates for SWDD. "Policy feedback is measured by organization performance. It indicates how well a policy is working for an organization" (Flick, 2017, p. 102). In this case, the typical result is incremental change and this study considers the reason fundamental or major change is initiated.

"Although stable policy processes exist when there is no noticeable shift in the current allocation of attention, dramatic changes occur in the process when attention is rapidly allocated to a new policy problem, and the problem is prioritized as a crucial agenda" (Kwon, Choi, & Bae, 2013, p. 195). In the study conducted by Flink (2017), her results indicated that "high levels of performance and low levels of personnel instability lead to incremental changes" (Flink, 2017, p. 101). These incremental changes allow for time to build up demand and pressure, which

eventually causes a major change (Flink, Meier, Hill, Robinson, Scott, & Whitten, 2014). Some directors may be limited to small, incremental changes within their own offices. These incremental changes and major changes are bound within the parameters of policy framing, issue salience, and institutional friction (Breunig & Koski, 2006). Oftentimes, policy and bureaucratic actors do not have the resources necessary to consider a broad range of policy alternatives; thus, they can tend to rely upon what was implemented the previous year and only make incremental changes to those operations (Breunig & Koski, 2006). There is a limited amount of policy attention that can be allotted to each topic. This leads to periods where information may be ignored, or under responded or over reacted to (Jones & Baumgartner, 2005).

In consideration of this study, a focusing event could be litigation or an OCR complaint at another institution, litigation or an OCR complaint at the director's institution, an internal student complaint that rises to the level to cause a change in audience by bringing the concern to a higher positional level than the director. A change in audience or venue could move from the focus of the director to a faculty committee, senior leader, provost, or president. If all of these pieces are in place, the existing policy framework may be viewed as inadequate and major change can occur (McNew-Birren, 2015).

Liability for Higher Education Institutions

"Most students who believe they have been wrongfully denied an academic adjustment or reasonable accommodation complain to the Office of Civil Rights rather than sue under Section 504 of the Rehabilitation Act" (Masinter, 2016, p. 3). When filing an OCR complaint, an attorney is not required so the process is not a personal financial burden to the student. Directors must be mindful of both the possibility of litigation if a student feels an accommodation was

wrongfully denied, as well as assuring that the accommodation does not fundamentally alter the nature of the course. It is a balancing act that requires the knowledge of the faculty member to determine the educational outcome of each learning endeavor and the director to offer guidance on alternative ways for the student to accomplish the learning outcome in a way that is accessible.

Although SWDDs could have a legal right to file a complaint, the Barnard-Brak, Lechtenberger, and Lan study (2010) found that "academically successful SWDs appear to desire negotiation and compromise over reporting ADA non-complain behaviors in seeking necessary accommodations" (p. 420). Many SWDDs in the study felt that positive outcomes from filing a complaint were not likely, and the students preferred to have a solution negotiated rather than attempting to enforce law (Barnar-Brak, Lectenberger, & Lan, 2010). By not filing a formal complaint and attempting to negotiate the situation with the institution's employees, stasis can continue in the framework of Punctuated Equilibrium Theory. With each student negotiating needs instead of implementing a massive overhaul, pressure begins to build in the system and could eventually lead to a focused or punctuated event causing major change.

<div align="center">Second Summary</div>

Students with disabilities face additional challenges than those faced by their peers without disabilities when striving for higher education degree completion. The DSS offices and their directors work to level the playing field for SWDD, and further information about what office characteristics contribute to the highest graduation rates for SWDD could be beneficial in the practice of the directors. The purpose of this research is to consider the most effective office characteristics and make the information available for implementation. The following chapter

describes the methodology for the study. Chapter IV discusses the results, and Chapter V provides a summary of the findings, discussing impacts they have on practice.

CHAPTER III

METHODS

The aspects of the research methodology are explained in this chapter. It is organized into the following sections: (1) overview of purpose and methods (2) research design (3) population, site (4) data collection procedures and instrumentation (5) data analysis procedures (6) pilot findings, and (7) limitations and delimitations.

Overview of Purpose and Methods

This purpose of this mixed method study was to deepen the understanding of DSS office characteristics within postsecondary education institutions, evaluate current DSS characteristics and practices, determine whether office characteristics affect graduation rates for SWDD, predict characteristics for graduating SWDD, as well as learn if the institutions are affected by punctuated equilibrium theory and Student Identity Development Theory as frameworks. A mixed methods survey tool was used to examine the following research questions:

RQ 1: What are the patterns of DSS office structures and characteristics that correlate to higher graduation rates?

RQ 2: What services are offered to registered students, staff members, and faculty members that correlate to higher graduation rates?

RQ 3: What mechanisms are used for publicizing the DSS office and services that correlate to higher graduation rates?

RQ 4: To what extent is identity theory reflected in the DSS Office characteristics and programs?

RQ 5: Are major changes or punctuated events generated by external actions: student complaints and office of civil rights decisions?

Research Design (Mixed Methods)

This mixed method, cross sectional study used both primary and secondary data to learn more about the relationship between DSS offices and graduation rates of SWDD. Characteristics about the DSS office was collected in three ways. The first way included downloading data about the institutions from IPEDS into a Microsoft Excel spreadsheet. IPEDS data are compiled through the National Center for Education Statistics (NCES). NCES is a federal organization that collects education data. IPEDS data are gathered from postsecondary institutions that report through surveys. (Integrated Postsecondary, n.d.) Downloading this data allowed for data retrieval about the institution without increasing the length of the survey. Data types from IPEDS use Carnegie Classifications. These classifications were created through the Carnegie Commission on Higher Education and are used to describe institutional data (Indiana University Center for Postsecondary Research, n.d). The data collected from IPEDS included nominal and ordinal data. Nominal data included the institution name; state; institution's main web address; whether the institution is private or public; whether the institution is a historically black college or university (HBCU), tribal college or land grant institution; degree of urbanization; institutional category (graduate with no undergraduate, primarily baccalaureate or above, not primarily baccalaureate or above); Carnegie Classification 2015: Basic (associate's, bachelor's, master's, doctoral); Carnegie Classification 2015: Undergraduate profile; Carnegie Classification 2015: Size and setting. Ordinal data from IPEDS includes characteristics such as highest level of degree offering, graduate offering (Graduate degree or certificate offering or none), Carnegie

Classification 2015: Enrollment profile (level of undergraduate or graduate and type of

transfers), and percentage indicator of the number of students registered as students with

disabilities above or below three percent of the total institution's enrollment. The percentage

indicator of three percent was selected by NCES for IPEDS since that is the way the government

requests that it is reported (M. Williams, personal communication, July 26, 2017).

Table 1 provides an overview of the four research questions, the methodology used for

each research question, and the data source for each.

Table 1. Research Questions, Methodology, Data Source

Research Question	Methodology	Data Source
Dependent Variable: Graduation rates for SWDD		
1) What are the patterns of DSS office structures and characteristics that correlate to higher graduation rates?	Bivariate Pearson Correlation; descriptive data; qualitative data analysis	IPEDS and Survey Responses
2) What services are offered to registered students, staff members, and faculty members that correlate to higher graduation rates?	Descriptive data; qualitative data analysis	Survey Responses
3) What mechanisms are used for publicizing the DSS office and services that correlate to higher graduation rates?	Descriptive data; qualitative data analysis	IPEDS and Survey Responses
4) To what extent is identity theory reflected in the DSS Office characteristics and programs?	Descriptive data; qualitative data analysis	Survey Responses
5) Are major changes or punctuated events generated by external actions: student complaints and office of civil rights decisions?	Descriptive data; qualitative data analysis	Survey Responses

The second way to obtain data was to review each website in the IPEDS dataset to determine if the online presence was robust enough to include the following: disability office name, director title, director name, director or office phone number, and director or office email address. If these additional data were found on the institution's website, they were added to the IPEDS Microsoft Excel spreadsheet so that the survey could be sent with an email personally addressed to the director and so that phone calls could be made to follow up on the surveys that were outstanding.

The IPEDS database provided information for 3,101 institutions. Of that number, there were 3,031 that had a higher education institution website. The websites were reviewed for the director and/or office data. Of those 3,031 institution websites, 1,528 included an office or director email address. There were institutions that had the same website listed multiple times in the dataset. There was because the institution had multiple campuses. A sample of these were reviewed to determine that there was one DSS office for all of the campuses. That being the case, only one website was used when there were multiple website addresses listed for one institution.

A survey tool administered through QuestionPro was the third way data were collected. The types of questions ranged from one selection radial dial, multiple selection, Likert scale, short answer text boxes, and open-ended text boxes for entering as much text as the directors chose to include. The survey included 45 questions; however, since there was branching within the tool, not all of the questions were offered to every respondent. See appendix A to view the survey tool.

The spreadsheet containing the IPEDS and website data was uploaded into QuestionPro. When surveys were answered, the survey data could be downloaded along with the IPEDS and website data into one case for each institution.

The data from the surveys could be analyzed in conjunction with the IPEDS data since they were merged into their respective institution cases. The multiple regression test with the dependent variable of four-year graduation rates for SWDD and the many characteristics listed under the components in Figure 1 as the independent variables was originally the primary choice because it considered various factors such as number of dependent variables, number of independent variables, and the level of measure of each of the variables. There was only one dependent variable of graduation rates for SWDD, which is ratio data. There were a multitude of independent variables as listed in Figure 1 under the three components of structure, internal and external partnerships, and programming support. The independent variables are the characteristics listed under the components in Figure 1 (i.e. documentation accepted, funding levels, staffing levels, mentoring programs, transportation, high school transition programs, etc.) within the same analysis for one dependent variable (graduate rates for students with disclosed disabilities). There were different levels of measure under each component type. For example, under the structure component, nominal, ordinal, interval, and ratio data were available depending upon each independent variable.

Each independent variable was included in this study in an effort learn which, if any, office characteristics can predict the graduation rates for SWDD. Multiple regression is widely used in the social sciences and can provide information of predictors of graduation rates using many independent variables. Multiple regression provides many comparisons at once and is used frequently for predictive modeling. Multiple regression can provide the strength of the relationship between graduation rates for SWDD, the dependent variable, and the numerous independent variables that use ratio or ordinal data. When the independent variable offers nominal or dichotomous data, multiple regression can still be used, and SPSS will create dummy

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coding of the independent variables prior to the analysis. Additionally, data from the surveys were measured using Pearson's correlation coefficient between variables to determine the strength of the correlation between the DSS characteristics and graduation rates. Pearson's correlation test was used to determine the direction of the correlation, the strength of the correlation, and whether the correlation was significant.

A large number of independent variables were considered in the analysis prior to narrowing the search to a limited few tables that had a correlation to the dependent variable of graduation rates, which are described in the following table. The independent variables included whether or not the institution was a land grant institution, the overall institution graduation rate from IPEDS, the percentage increase in the number of registered SWDD, whether or not the institution had a disability studies major, number of full-time staff members, number of part-time staff members, where the DSS office directly reports, the total number of program types offered, whether or not the DSS office has a strategic plan, if the office location is easy to find, the total number of written procedures and policies, the total number of collaborations, whether or not there is an indication of barriers to change, the total number of resources, whether or not there is a student advisory council, the total number of types of funding, the total number of types of educational opportunities, the total number of types of documentation accepted, the number of student employee hours, the number of registered SWDD, and the graduate offering which indicates if there is a graduate program at the institution.

Hypotheses for the study are described in the following table.

Table 2. Hypotheses

Null Hypotheses (H_0)	Hypotheses
The sector of institution data are not correlated to graduation rates for SWDD. (The sector of institution is the label for public, 4-year or above, private not-for-profit, 4-year or above, and private for-profit, 4-year or above.)	The sector of institution data are correlated to graduation rates for SWDD.
The existence of a disability studies major at an institution is not correlated to graduation rates for SWDD.	The existence of a disability studies major at an institution is correlated to graduation rates for SWDD.
The existence of a student advisory council at an institution is not correlated to graduation rates for SWDD.	The existence of a student advisory council at an institution is correlated to graduation rates for SWDD.
An increase in the number of registered SWDD is not correlated to graduation rates for SWDD.	An increase in the number of registered SWDD is correlated to graduation rates for SWDD.

Student Identity Development Theory can be measured by the independent variables that contribute to the identity of the entire student and not only in consideration of academics, as well as any comments that were provided by the directors. The independent variables that contribute to considering if this theory is a framework for DSS offices include the office name relative to person-first language and removing barriers instead of offering supports; the services that are offered to SWDD if they consider the student as a whole rather than only seeking academic accommodations; whether marketing materials are inclusive of people with disabilities so SWDD can see themselves in the materials and feel they are represented at the institution; whether or not the office has a student advisory council to inform leadership, which can be

valuing to the SWDD who have an opportunity to advocate for themselves and their peers; and

whether or not the accepted documentation takes the entire student's identity into consideration

instead of using the medical model approach. Additionally, programs offered by the DSS offices

could be related to development of a student's identity. These independent variables are listed

under the components in Figure 1. These variables were analyzed through descriptive and

inferential statistics, as well as through qualitative data analysis of the comments entered into the

survey by the respondents.

Questions were asked in the survey related Punctuated Equilibrium Theory. The

independent variables analyzed to address PET include the following: consideration of number

and types of written policies and procedures as related to incremental change; the reporting

structure of the office as related to access to high-level institutional positions; questions relative

to initiators of change; frequency of major change; and barriers to major change. These

independent variables of mentoring programs, fee-for-service programs, transition services,

study abroad opportunities, and overall programs offered are listed under the components in

Figure 1. These variables will be analyzed through descriptive and inferential statistics, as well

as through qualitative data analysis of the comments entered into the survey by the respondents.

Population

The population of focus for this study is directors of disability services offices in higher

education within the United States from postsecondary education institutions. The institutions

were selected based upon a dataset maintained IPEDS. Using IPEDS, the postsecondary

institutions were downloaded for institutions in the United States. There were 3,101 records

pulled in the dataset. The following characteristics for each institution is listed in an Excel file:

- State abbreviation.

- Sector: Public, 4-year or above; Private not-for-profit, 4-year or above; Private for-profit, 4-year or above.

- Highest level of offering: Associate's, Bachelor's degree, Postbaccalaureate certificate, Master's degree, Post-master's certificate, Doctor's degree.

- Historically Black college or university: Yes or no.

- Tribal college: Yes or no.

- Degree of urbanization: City: Large, City: Midsize; City: Small; Suburb: Large, Suburb: Midsize, Suburb: Small; Town: Fringe, Town: Distant, Town: Remote; Rural: Fringe, Rural: Distant, Rural: Remote.

- Institutional category: Degree-granting, graduate with no undergraduate degrees, Degree-granting, primarily baccalaureate or above, Degree-granting, not primarily baccalaureate or above, Not reported, Not applicable.

- Land grant institution: Yes or no.

- Carnegie Classification 2015: Size and Setting: Four-year, very small, primarily nonresidential; Four-year, very small, primarily residential; Four-year, very small, highly residential; Four-year, small, primarily nonresidential; Four-year, small, primarily residential; Four-year, small, highly residential; Four-year, medium, primarily nonresidential; Four-year, medium, primarily residential; Four-year, medium, highly residential; Four-year, large, primarily nonresidential; Four-year, large, primarily residential; Four-year, large, highly residential; Exclusively graduate/professional; Not applicable, not in Carnegie universe (not accredited or nondegree-granting).

- Percent indicator of undergraduate formally registered as students with

     disabilities: 3 percent or less, More than 3 percent, Not reported, Not applicable.

After a consultation with Dr. Joshua Naranjo, Director of WMU's Statistical Consulting Center, it was determined that a power for a sample could not be reliably calculated and that the entire population of 3,101 DSS directors should be offered the survey. Of the 3,101 institutions, a central website was included from IPEDS for 3,031 institutions. Seventy of the institutions did not have an institution website listed in the dataset from IPEDS.

Each of the records that contained a website were reviewed by one of five research assistants. Each research assistant was trained in a consistent manner. If a search bar was available for the institution's website, the researcher entered the term *disability* or *accessibility* in search of the office name, director title, director email address, and director phone number. These data were added to the spreadsheet. If the information was unavailable for a specific person within a director role, but the disability office general phone number and email address was available, it was included in the spreadsheet. If the research assistant was unable to locate the director information or the general disability contact information for a particular institution, the institution was excluded.

After the website information was collected, the spreadsheet was uploaded into QuestionPro. A report was downloaded from QuestionPro to determine if there were any email addresses in an invalid format. The cases that contained email addresses in an invalid format were reviewed, and the format was corrected prior to the final upload of the spreadsheet. IPEDS database provided information on 3,101 institutions. Of that number, there were 3,031 institutions with higher education institution websites. The institution webpages were consulted to define the director's name and email address. If this information was not provided, then the

general office email was used. Some institutions had multiple listings for the same website. That was the case when there were multiple campuses for one institution. In these cases, if a DSS director could not be located on individual campus sites, only the main website was used. There were 1,525 institutions that included a director or office email address. Of the 1,528 email addresses, seven were duplicates that the survey software located that had not been previously identified as duplicates so there were 1,521 available email addresses.

The initial survey invitation that was sent to 1,521 email addresses on November 12, 2018. A reminder email invitation was sent on November 19, 2018. During November 19 through 21 and November 26 and 30, 2018, four research assistants made phone calls to 121 potential respondents who had not yet completed the survey. The 121 phone calls were only made to directors of institutions whose IPEDS data indicated that the percent indicator of undergraduates formally registered as students with disabilities was 3 percent or greater. For consistency, the primary researcher trained the research assistants and a script was provided. See appendix E.

Data Collection Procedures and Instrumentation

Survey Tool Development

An electronic survey tool was selected for this research for many reasons including reduced time and cost in accessing the directors, ease of data entry of the information, (Granello & Wheatron, 2004), ability to reach a greater number of potential respondents, ability to connect with potential respondents who are geographically distant, the ease of data analysis as the information could be downloaded into data analysis software packages such as SPSS and QDA Miner Lite.

There are drawbacks to using an electronic survey. One drawback is low response rates (Granello & Wheaton, 2004); however, this was combated by sending the initial email invitation and then a reminder email approximately a week a part (Muñoz-Leiva, Sánchez-Fernández, Montoro-Ríos, & Ibáñez-Zapata, 2009) and phone calls that were placed to the directors to increase participation. Administration of the survey was also conducted in such a way that supported increased response rates. "Personalization of messages causes an increase in perceived reward for the members of the sample population as a result of their participation in the survey as it leads them to consider their opinion and themselves as important and valuable for the researcher" (Muñoz-Leiva, Sánchez-Fernández, Montoro-Ríos, & Ibáñez-Zapata, 2009, p. 1039). To this end, when the name of director was located on the website, it was included in the initial email and the reminder email. Additionally, the introduction to the survey briefly explained how the participant's contribution can benefit the field of study, the DSS directors, and ultimately, the SWDD. The addition of the lottery drawing for gift cards was also an incentive to increase the response and retention rate (Sánchez-Fernández, Muñoz-Leiva, Montoro-Ríos, & Ibáñez-Zapata, 2008). There was a lottery drawing for a $100 gift card and a $50 gift card.

Existing literature was reviewed to determine the content of the survey questions in alignment with the conceptual framework as depicted in Figure 1. The survey was created and administered in alignment with guidance from Dillman, Smyth, and Christian (2009) including personalization of contacts to potential survey respondents, use of multiple contacts, and providing clear instructions. The introductory email and first page of the survey thanked the potential respondent for their time, knowledge, and experience. To assure the instructions were clear, prior to survey deployment, the survey was reviewed by multiple people who provided guidance on any areas that needed to be reworded for clarity.

The multiple people who provided guidance on the draft survey included three social science researchers, three dissertation committee members, three disability leaders in higher education, and 15 individuals. The group of 15 individuals consisted of professionals who work in disability and diversity in higher education, professionals who work in disability areas in postsecondary education, higher education students, and people who identified with various types of disabilities. This was necessary to assure that the questions were accessible as there are presumably DSS directors who identify with having disabilities. This assisted in increased validity by reducing bias in the way the questions were asked and assuring that the questions were asking what was intended. The reviews assisted in increased reliability, and to "check for clarity of wording, participant acceptance of the questions" (Garnello & Wheaton, 2014, p. 392). Reliability was enhanced because the independent reviews provided an opportunity to learn if there were questions that were not understood in a similar manner by all of the reviewers. If a response was not received that was not addressing the question asked, the question was confusing to reviewers, and it was rewritten. If the question was not interpreted the same way for each respondent, the answers could have been significantly different resulting in need to re-word the question. The individuals who reviewed the survey tool were not included as study participants, although some of them were DSS directors or leaders in the field. The reviewers provided the amount of time it took for them to complete the survey so that an average time could be provided in the introductory email. Feedback was implemented regarding question clarity and on ways that the survey could be shortened.

It was intentional to include reviewers who are skilled at taking electronic surveys, as well, as those who are novices (Garnello & Wheaton, 2004), which was accomplished by the thoughtful selection of the reviewers. The survey was also reviewed within various browsers

(Chrome ™, Internet Explorer ™, Mozilla Firefox ™), and equipment (iPhone ™ and Android ™ cell phones, laptop, personal computer) to assure the survey was accessible by different web browsers and various equipment.

Survey Distribution

The disability directors employed by postsecondary education institutions were sent an email invitation to participate in the study in the form of an electronic survey questionnaire. HSIRB determined the project did not need review and a participant consent form was not needed. See appendix B for the letter indicating "Approval not needed for IRB Project Number 18-11-02." The email was the cover letter that invited their participation. See appendix C. The cover letter in the form of the email included a link to the survey. It was a specific link for each institution. The participants were self-selected through voluntary response to the electronic survey. This method of recruitment in the first phase allowed contact with all of the directors in one mass communication. Informed consent was not necessary for inclusion in the beginning of each web-based survey as a discussion regarding the research, and an application protocol was submitted.

The survey results are confidential, not anonymous, in that a unique link was provided to each participant and the IP address could be linked to the respondent's computer. This assures that only those who did not respond were sent a second request in the form of the reminder email to participate. This makes it possible to determine who responded to the survey and who did not. The primary researcher is the only person who has access to the IP addresses to determine which potential respondents had not yet taken the survey. The survey results will be held by the researcher for three years after the completion of the study on a secured server.

Survey Participation Encouragement

For disability directors who did not respond to the email invitation on November 12, 2018, a second email was sent inviting participation on November 19, 2018. Phone calls were made to 121 directors who had not responded during November 19 through 21 and November 26 and 30, 2018. The directors were those whose institutions were categorized as more than 3 percent population of students with disabilities for the field of "Percent indicator of undergraduates formally registered as students with disabilities." Directors of these institutions were selected because offices with higher percentages of registered SWDD would presumably have more information regarding running a DSS office as opposed to directors whose populations are very small. There were 821 rows with this designation that had a general website. From this subset, the rows were randomly assigned a number using the random function in Microsoft Excel. The first 121 directors with the lowest number were selected for phone calls. If a phone number was unavailable or no one could be reached, the next row in the dataset was used. The primary researcher was the only one with access to the IP addresses. A separate spreadsheet was created with the director contact information so each of the research assistants could make the phone calls assigned to them.

The phone calls were placed to the selected directors. Each research assistant introduced themselves, explained that they were calling to inquire about the survey, explained the purpose of the survey, the importance of the director's contribution, and provided contact information for the primary researcher. The researcher phone script is in appendix E. If the director was interested, but no longer had the email with the survey link, the primary researcher resent the email to the director. This assisted with the response rate in the event that the email is caught in a spam filter or the director needed a phone call reminder to participate.

Survey Incentive

The email invitation included an incentive to be entered into a lottery drawing with a first-place award of a $100 gift card and a second-place award of a $50 gift card. To participate in the drawing, the director provided an email address at the end of the survey. This is another reason that the survey was confidential not anonymous. Once the survey was closed, all respondents who opted into the drawing (n=117) were included in a Microsoft Excel spreadsheet. Each participant was randomly assigned a number using the RAND function in Microsoft Excel, the rows were sorted from smallest number to largest number, and the smallest two numbers were selected. The winners were sent an email request for the physical addresses to send the gift cards. Both winners responded promptly with the physical addresses, and the gift cards were mailed to them on December 15, 2018.

Data Analysis Procedures

There were three types of data analysis used in this study: quantitative correlation analysis, inferential data analysis, descriptive data analysis, and qualitative data analysis.

Quantitative Correlation Analysis

Data analysis used a quantitative methodological approach when there was a sufficient number of data obtained to allow for the application of the bivariate Pearson Correlation to learn if any of the independent variables could predict a graduation rate for SWDD. This analysis allows for the inclusion of multiple independent variables. In this study, the independent variables are the characteristics listed under the components in Figure 1 were selected based upon the literature review (i.e. type of documentation accepted, funding levels, staffing levels,

available programs, whether or not the office has a student advisory council, etc.) within the same analysis for one dependent variable (graduate rates). This allowed for a determination as to whether there is a statistically significant strength in a relationship between the independent and dependent variables. The independent variables were used to predict the continuous dependent variable being the DSS graduation rates. The analysis was conducted using the SPSS. The analysis considered variables from IPEDS and the data obtained from the directors to learn which independent variables affected the dependent variable of 4-year graduation rate for SWDD. A large number of independent variables were considered in the analysis prior to narrowing the search to a limited few tables that had a correlation to the dependent variable of graduation rates, which are described in the following table. The independent variables included whether or not the institution was a land grant institution, the overall institution graduation rate from IPEDS, the percentage increase in the number of registered SWDD, whether or not the institution had a disability studies major, number of full-time staff members, number of part-time staff members, where the DSS office directly reports, the total number of program types offered, whether or not the DSS office has a strategic plan, if the office location is easy to find, the total number of written procedures and policies, the total number of collaborations, whether or not there is an indication of barriers to change, the total number of resources, whether or not there is a student advisory council, the total number of types of funding, the total number of types of educational opportunities, the total number of types of documentation accepted, the number of student employee hours, the number of registered SWDD, and the graduate offering which indicates if there is a graduate program at the institution.

Table 2 (repeated)

Null Hypotheses (H$_0$)	Hypotheses
The sector of institution data are not correlated to graduation rates for SWDD. (The sector of institution is the label for public, 4-year or above, private not-for-profit, 4-year or above, and private for-profit, 4-year or above.)	The sector of institution data are correlated to graduation rates for SWDD.
The existence of a disability studies major at an institution is not correlated to graduation rates for SWDD.	The existence of a disability studies major at an institution is correlated to graduation rates for SWDD.
The existence of a student advisory council at an institution is not correlated to graduation rates for SWDD.	The existence of a student advisory council at an institution is correlated to graduation rates for SWDD.
An increase in the number of registered SWDD is not correlated to graduation rates for SWDD.	An increase in the number of registered SWDD is correlated to graduation rates for SWDD.

Descriptive and Inferential Data Analysis

Qualitative Data Analysis

For the qualitative component derived from the open-ended questions, a qualitative data analysis computer software package was used. QDA Miner Lite was used to assist in organizing the data to analyze for codes. Coding sought to identify categories then codes were identified, and a code book was developed. Reports on code frequencies were pulled and the major themes and subthemes were derived. The major themes were derived from respondents adding comments across multiple questions from multiple respondents in the same regard. The qualitative data was used to provide a greater understanding of the quantitative data. Additionally, using triangulation is a way to enhance the validity of the research in that there were multiple ways to arrive at the same conclusion for some of the independent variables.

Limitations and Delimitations

A delimitation of this study was that the directors were not asked about the types of disabilities the students registered with their office had. It is possible that the disability type could have an effect on graduation rates. "SWDs as a special population in higher education have unique and diverse needs given the unique and diverse nature of disability" (Barnar-Brak, Lectenberger, & Lan, 2010, p. 421). Questions regarding disability type were not asked for three reasons: 1) it increased the length of the survey which could have deterred DSS director participation, 2) the data may not have been readily available to DSS directors which could have also deterred participation, and 3) the study was investigative in determining whether there is a relationship between the selected independent variables and graduation rates. Adding disability type was beyond the scope of the study.

Another delimitation of the study was that directors were only asked questions for consideration of the framework of Punctuated Equilibrium Theory relative to their personal opinions on change. The reason for this was because the opinions of the directors on topics such as how frequently they encounter major change, frequency of incremental change, and perceived obstacles to change are information that are readily available to the directors. For ease of responding to the survey, the questions were intentionally asked as opinions. The result is that this portion of the study is descriptive in nature.

A third delimitation of the study is that directors were not asked about their educational backgrounds, degree attainment, professional experience, or if they examine their own biases. Although answers to these questions are an important part of the implementation of the services within the DSS offices, after careful consideration and consultation with Lori Wingate, Ph.D., director of Research, Evaluation Center, Western Michigan University, it was determined that

the questions should be excluded. Potential respondents may find the questions invasive and decide not to finish the survey. This would create more harm to the study than actually enhancing the data collected. Additionally, the length of the survey needed to be reduced so that potential respondents do not remove themselves from the survey simply because it is taking up too much of their time to complete.

This study is focused on postsecondary education institutions with offices of disability services for students. Although findings may be useful in practice for institutions without a central DSS office, it is not generalizable to that population resulting in a delimitation.

A limitation of the study is that only institutions with DSS offices that were clearly listed on the institution's website were included in the study. Institutions that did not have a DSS online presence were systemically excluded.

This study reveals findings for DSS offices that have a website presence for students who have disclosed their disabilities and sought accommodations. The study has a limitation in that it did not consider the experiences of SWD who did not disclose with DSS offices and staff members. These experiences of students with disabilities who were not registered with the office were not considered in this study.

Summary

This study considered graduation rates of SWDD and how they are impacted by DSS office characteristics in an effort to determine which characteristics directors should replicate at their institutions to provide the best opportunities for graduation for SWDD. This chapter described how potential survey participants were recruited, discussed the processes for data collection, explained how office characteristics were described using statistics, and described how

qualitative methods were used to analyze respondent short answers. The following chapter, Chapter

IV, provides the results from this process.

CHAPTER IV

DATA, RESULTS, AND FINDINGS

Implementation of higher education disability legislation can be conducted in many ways such as leadership in some institutions may offer accommodations, supports, or programs that are not offered at other institutions. The purpose of this study is to provide insight into the ways in which directors of those offices implement the law to determine which ways are most effective for graduating SWDD. The results of the study are examined in this chapter. It is organized into the following sections: (1) Introduction (2) Description of data (3) Qualitative, descriptive, and inferential statistics (4) Qualitative data analysis.

Introduction

This chapter describes and analyzes data for the following research questions:

RQ 1: What are the patterns of DSS office structures and characteristics that correlate to higher graduation rates?

RQ 2: What services are offered to registered students, staff members, and faculty members that correlate to higher graduation rates?

RQ 3: What mechanisms are used for publicizing the DSS office and services that correlate to higher graduation rates?

RQ 4: To what extent is identity theory reflected in the DSS Office characteristics and programs?

RQ 5: Are major changes or punctuated events generated by external actions: student complaints and office of civil rights decisions?

The data are analyzed primarily with qualitative data analysis and descriptive and inferential statistics. Using sophisticated analysis such as Pearson's correlation was limited because of the small number (n=33) of respondents who answered the survey question "4-year graduation rate" for "Percentage of Students Registered with disability Services."

Description of Data

The data from IPEDS provided 3,031 rows with higher education institution websites, and of that number, 1,725 publicize their disability office on the website. Of the 1,725 DSS offices identified on websites, there were 1,528 that also had an email address for the director of the DSS office on the website. The characteristics of the institutions with office websites (n=1,725), and the characteristics of the institutions from the respondent data (n=153) are described in this section.

The process to obtain the 153 respondents began with uploading the dataset of 1,528 institutions into the QuestionPro® online survey software. The software indicated that there were seven duplicates. These were from institutions that had multiple campuses with only one DSS office. Therefore, the original survey invitation that was sent to 1,521 email addresses on November 12, 2018. Of that number, there were 146 messages that returned auto-generated messages. Most of those messages indicated that the recipient was out of the office. Some of the messages indicated that the recipient was no longer in the position. In most of these cases, another incumbent name was not provided. If the recipient was out of the office, for an extended period, a phone number was sometimes provided, but not usually another email address so the survey was not sent to another recipient. In some cases, the original recipient would have had an opportunity to respond upon returning to the office prior to the survey closing.

After the first email invitation, there were 51 respondents. A reminder email invitation was sent on November 19, 2018 to 1,324 email addresses, which included the original 1,521 email addresses less the 51 responses and less the 146 email addresses that resulted in auto-generated messages. If the recipient was out of the office, for an extended period, it was unnecessary to send a reminder as they would not have yet seen the original email invitation until they returned to the office.

During November 19 through 21 and November 26 and 30, 2018, four research assistants made phone calls to 121 potential respondents who had not yet completed the survey. The 121 phone calls were only made to directors of institutions whose IPEDS data indicated that the percent indicator of undergraduates formally registered as students with disabilities was 3 percent or greater. Dr. Joshua Naranjo, Director of WMU's Statistical Consulting Center, provided guidance that a power could not be easily obtained so all institutions in the dataset should have an opportunity to participate in the survey; however, for making the phone calls to encourage participation, focusing on the institutions that have populations of SWDD of 3 percent or greater would provide more information about the DSS offices that have a fairly sizable population as opposed to offices with very few SWDD because having offices who have SWDD at less than 3% are likely to have less experience with accommodating the students.

For consistency, the primary researcher trained the research assistants and a script was provided. See appendix E. With the reminder email and phone calls, there were an additional 109 surveys responses totaling 160 responses. There were seven survey responses with insufficient data because the respondent discontinued completing the survey after entering very few data. Thus, the useable surveys numbered 153. The response rate equaled 10 percent (153 / 1,521).

The following table provides institution characteristics (independent variables) against three datasets: 1) the total IPEDS dataset with higher education institution websites, 2) the IPEDS dataset that included institution websites that advertised a DSS office website and 3) the survey respondent dataset.

Overall, the table shows that there is generally good representation across all datasets. There are four areas that are slightly more heavily represented in the overall IPEDS dataset than the other two datasets. The institution characteristic of "Private not-for-profit, four-year or above" constitutes 78.65% of its dataset; whereas it only constitutes 61.91% of the IPEDS dataset with a DSS office website; and only 56.21% of the survey dataset. The institution characteristic of "Doctoral Degree" constitutes 37.02% of the IPEDS dataset; whereas it constitutes 44.87% of the DSS office website dataset; and 44.44% of the survey dataset. The institution characteristic of "Bachelor's Degree" constitutes 32.76% of its dataset; whereas it only constitutes 20.93% of the IPEDS dataset with a DSS office website; and only 18.95% of the survey dataset. The institution characteristic of "Percent Indicator SWDD Registered Below 3%" constitutes 63.38% of its dataset; whereas it only constitutes 50.84% of the IPEDS dataset with a DSS office website; and only 42.48% of the survey dataset. This slight overrepresentation is acceptable because having directors respond who have SWDD at less than 3% are likely to have less experience with accommodating the students. This was the reason that the phone calls were made to directors who had SWDD at 3% and above. Figure 2 provides a visual representation between all three datasets.

Table 3. Institution Characteristics, IPEDS, Population, Respondents

Institution Characteristics	# in IPEDS data-set	% of Total in IPEDS data-set 3,031	# in Population with an office website	% of Total in Population 1,725	# of Respon-dents	% of Total of Total Respon-dents 153
HBCU	89	2.94%	58	3.36%	5	3.27%
Tribal College	13	0.43%	6	0.35%	2	1.31%
Land Grant	84	2.77%	75	4.35%	10	6.54%
Carnegie Classification						
Sector of Institution						
Public, four-year or above	715	23.59%	628	36.41%	63	41.18%
Private not-for-profit, four-year or above	2,384	78.65%	1,068	61.91%	86	56.21%
Highest Degree Offered						
Doctoral Degree	1122	37.02%	774	44.87%	68	44.44%
Master's Degree	984	32.46%	561	32.52%	52	33.99%
Bachelor's Degree	993	32.76%	361	20.93%	29	18.95%
Degree of Urbanization						
City	1,628	53.71%	856	49.62%	76	49.67%
Suburb	868	28.64%	402	23.30%	34	22.22%
Town	415	13.69%	334	19.36%	25	16.34%
Rural	188	6.20%	104	6.03%	14	9.15%
Percent Indicator SWDD Registered						
3% and above	821	27.09%	744	43.13%	76	49.67%
Below 3%	1,921	63.38%	877	50.84%	65	42.48%

Figure 2. Representation of Carnegie Classifications by IPEDS, website, respondents.

When considering the IPEDS dataset that included institution websites advertising a DSS office website and the survey respondent dataset, representation of the institution characteristics (independent variables) is comparable. Figure 3 is a visual representation of this.

Figure 3. Representation of Carnegie Classification by website and respondents.

Of the 153 responses to the survey, there are 149 surveys in which the state was identifiable as the survey response data was linked to the IPEDS data. Forty states are represented. There are 54 respondents from the Midwest; 34 respondents from the Northeast; 34 respondents from the Southeast; 18 from the West; and nine from the Southwest. The West and the Southwest are underrepresented in the sample. The Midwest is overrepresented. The following bar chart depicts the representation of the geographic regions for the IPEDS dataset that included institution websites advertising a DSS office website along with the survey respondent dataset, which offered a state.

Figure 4. Representation of region by website and respondents.

Qualitative, Descriptive, and Inferential Statistics

Of the 153 respondents, 89% (n=136) provided additional comments within the survey. "Text data are dense data, and it takes a long time to go through them and make sense of them" (Creswell, 2015, p. 152). After becoming familiar with the respondent text by reading the data multiple times, categories were defined in a Microsoft Word document. To assist with organization for understanding if any of these data were related to research questions, the text was uploaded into QDA Miner Lite. The categories were used, and codes developed. Super-categories were later created to help organize the information.

In consideration of increasing reliability, using the established definitions of the categories and the codes, two researchers read the text in QDA Miner Lite and coded the text independently. The categories and codes are presented in Figure 5.

To assure there was inter-coder reliability, a simple percentage was used in this qualitative review. The majority of the coding employed by each researcher was similar by

approximately 88 percent as determined by dividing the number of agreements in coding by the total number of coded observations. Many differences were because one researcher selected more text for each code than the other. The overall understanding of how the text related to the code was similar in most instances. According to Miles, Huberman, and Saldaña (2014), inter-coder agreement of between 85 to 90 percent is a reasonable goal. There were some text areas that the researchers discussed regarding the codes, and the researchers determined that the text areas required multiple codes as they sometimes fit into two categories and a minimum of two codes. This was acceptable as the researchers initially agreed upon using multiple coding when necessary. The adjustments were made after researcher discussions regarding their reasoning for each category and code. The literature is not overwhelmingly clear on whether multiple codes are useful. According to Ritchie and Spencer (1994), "single passages often contain a number of different themes each of which needs to be referenced; multiple indexing of this kind can begin to highlight patterns of association within the data" (p. 182). However, Creswell (2015) explains that "You can certainly code a text segment with multiple codes, but ask yourself, 'What is the main idea being conveyed?' and assign a single code" (p. 160). Based upon the differing viewpoints in the literature, the researchers determined only to use multiple codes when their discussions resulted in agreement that more than one main idea was conveyed for particular text.

The themes were explained in conjunction with the descriptive and inferential statics. The super-categories and categories were derived based upon the survey questions asked and the additional comments provided by the respondents in the open-ended survey questions. There were four overarching super-categories: funding, reporting and partnerships, PET, and services. From the code book in Figure 5, the bolded titles are the categories and the standard text next to the blue bullets are the codes. Here are explanations of the acronyms in the codes used by the

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researchers: NSF refers to non-sufficient funds; SF refers to sufficient funds; PD refers to professional development; and RTC refers to the location the office reports to in hierarchal supervision.

The majority of the categories were meant to help explain *RQ 1: What are the patterns of DSS office structures and characteristics that correlate to higher graduation rates?* Of course, correlations cannot be determined using qualitative data. The section of the research question referring to correlation to graduation rates was answered by the survey respondents who provided data on DSS graduation rates. Under the super-category of funding, there were two categories of funding availability and funding oversight. Under those categories, there were four themes and three subthemes, which included 1) Lack of operational resources; [subthemes: a) Overall operations b) Office supplies, c) Staffing]; 2) Smaller offices have sufficient staffing; 3) Sufficient financial resources for required accommodations are available; and 4) Fund types, in addition to general fund, are sought. Funding availability provided information on respondent perceptions regarding their budgets and what expenses were covered and what required more fiscal support. For the funding availability category, there were both perceptions of NSF and SF. The funding services category explained from where the directors received their financial support.

Under the reporting and partnerships super-category, there were four categories: data, DSS RTC, ADA office RTC, and director oversight. DSS RTC category included information from the respondents about where their offices directly reported. The ADA office RTC provided some information on where the ADA office directly reported. This category was meant to learn if the ADA office and the DSS office worked closely and had the same reporting line. The employee responsible for ADA accommodations support employees. That may or may not be

within the DSS office, which minimally supports access for SWDD. Respondents did not offer a large amount of information in this category. Director oversight was intended to learn if the director had more units to oversee beyond the DSS office. If so, it would be useful to know if multiple reporting units caused challenges for having too much for the director to oversee, or if it made it useful for pulling all of the units into collaborations. The DSS office category includes comments from the directors regarding the types of communication, documentation, and resources available.

Under the PET super-category, there was one category of PET. Under that category, there was one theme of 7) PET institutional policy change challenges. Respondents provided information regarding major changes for this theme relative to *RQ 5: Are major changes or punctuated events generated by external actions: student complaints and office of civil rights decisions?*

The services category was meant to assist in explaining *RQ 2: What services are offered to registered students, staff members, and faculty members that correlate to higher graduation rates?* and *RQ 4: To what extent is identity theory reflected in the DSS Office characteristics and programs?* Under the services super-category, there were two categories of services and DSS office. Under those categories, there are two themes and four subthemes. Themes and subthemes are as follows: 5) Subjective documentation age and type; [subthemes: a) Disability type, b) Age based upon disability, c) Varies, d) Static]; and 6) Meet needs with partnerships and collaborations. The data category consisted of learning about the types of data directors collected.

The category DSS office also includes a code regarding communication that assists in explaining *RQ 3: What mechanisms are used for publicizing the DSS office and services that*

correlate to higher graduation rates? The leadership category assists in explaining *RQ 4: To what extent is identity theory reflected in the DSS Office characteristics and programs?* and *RQ 5: Are major changes or punctuated events generated by external actions: student complaints and office of civil rights decisions?* See Figure 5 for the codes.

Funding Availability
- NSF Accommodations
- NSF General
- NSF PD
- NSF Services
- NSF Staffing
- NSF supplies
- SF accommodations
- SF General
- SF PD
- SF services
- SF staffing
- SF supplies

Funding Sources
- Fund Types

Data
- Data Tracking

Services
- Services Offered
- Testing Center

DSS Reports To
- Counseling RTC
- Enrollment Management RTC
- Student Affairs RTC
- StudentSuccess/Services RTC
- Wellness RTC
- Other DSS RTC

ADA Office RTC
- Expected RTC
- Unclear RTC
- Unique RTC
- Other RTC

Leadership
- Policy
- Major Changes

Quotes
- Possible Quotes

Director Oversight
- Typical Dir Oversight
- Unique Director Oversight
- DSS provides services

DSS Office
- Office Communication
- Documentation Types
- Documentation Currency
- DSS Inform Groups
- Resources

Figure 5. Qualitative categories.

The Figure 6 is a word cloud derived from all of the comments from the 136 respondents who provided additional information. The terms that were used the most by respondents are largest in font size and include the following: disabled, access, student, service, director, and fund.

Figure 6. Word cloud.

Office Structure

This section explains the data analysis of the structure component and the characteristics therein listed in Figure 1.

Publicizing

This section provides data relative to publication of the DSS office. The data from IPEDS provided 3,031 rows with higher education institution websites, and of that number, 1,725 publicize their disability office on the website. To demonstrate which institution characteristics were determined to have the greatest percentage of DSS offices listed on their institution websites, the following table was created. The table demonstrates that the following institutional

characteristics more frequently advertise DSS offices on the institution's website than other

instructional characteristics: Land Grant; Public, four-year or above; Doctoral degree granting;

Doctoral universities; Institutions located in towns; Four-year residential (all sizes); and Percent

Indicator of SWDD 3% and above. The data suggests that larger institutions more frequently

have websites than smaller institutions.

Table 4. Institution Characteristics, Dataset, IPEDS, Website

Institution Characteristics	Total # of category in dataset	# from IPEDS with an office on website	% of All Institution with an office on website
HBCU	89	58	65.17%
Tribal College	13	6	46.15%
Land Grant	84	75	89.29%
Carnegie Classification			
Sector of Institution			
Public, four-year or above	715	628	87.83%
Private four-year or above	2,384	1,068	44.80%
Highest Degree Offered			
Doctoral Degree	1,122	774	68.98%
Master's Degree	984	561	57.01%
Bachelor's Degree	993	361	36.35%
Basic			
Associate's	162	63	38.89%
Baccalaureate Colleges	1,773	703	39.65%
Master's Colleges & Universities	742	604	81.40%
Doctoral Universities	331	301	90.94%
Tribal Colleges	13	6	46.15%
Degree of Urbanization			
City	1,628	856	52.58%
Suburb	868	402	46.31%
Town	415	334	80.48%
Rural	188	104	55.32%
Size and Setting			
Four-year residential (all sizes)	1,356	1,066	78.61%
Four-year non-residential (all sizes)	1,355	538	39.70%
Percent Indicator SWDD Registered			
3% and above	821	744	90.62%
Below 3%	1,921	877	45.65%

The names of the DSS offices are analyzed to assist in answering *RQ 4: To what extent is identity theory reflected in the DSS Office characteristics and programs?* Language can be an important factor in a student's identity and advertising with an office name that feels empowering could encourage attendance at the institution and use of the office, conversely, disempowering language could cause some students to dismiss the institution or avoid using the services the office has to offer, which could decrease their potential for graduation if services are necessary. For example, although there are differences in how people identify, many people with disabilities prefer person-first language. Instead of being labeled as "disabled," another phrase that could be used is "person identifying with a disability" or "person with a disability". Noun labeling refers to a person as their disorder, and person-first language refers to the person having a disorder (Cuttler & Ryckman, 2018). Some students may feel adversely toward the term "support" as they may feel that they do not need support or help in addition to what their peers without disabilities receive. Instead, SWDD only need barriers removed and an accessible environment for all students. The following table provides the frequencies for frequently used terms within the office names. The overwhelming majority in both the population and the survey respondents include the terms "service," and "disability" in their office names. Terms such as "support," "disability support," "disabled," and "adaptive" may feel disempowering to a student's identity and are used less frequently. This analysis is in consideration of Student Identity Development Theory.

Table 5. Office Names

Term or Phrase in Office Name	# in Population with an office website	% of Total in Population (n=1,725)	# of Respondents	% of Total of Total Respondents (n=146)
Service	1,213	70.32%	101	69.18%
Disability	1,041	60.35%	98	67.12%
Disability (without the term Support)	835	48.41%	76	52.05%
Access	305	17.68%	35	23.97%
Support	292	16.93%	20	13.70%
Resource	211	12.23%	23	15.75%
Disability support	193	11.19%	15	10.27%
Disability support (without the term access)	191	11.07%	15	10.27%
Academic	123	7.13%	9	6.16%
Learning	49	2.84%	3	2.05%
Academic support	38	2.20%	1	0.68%
Disability & Access	38	2.20%	6	4.11%
Academic support (without the term Disability)	32	1.86%	1	0.68%
Ability	16	0.93%	-	0.00%
Disabled	7	0.41%	-	0.00%
Adaptive	3	0.17%	1	0.68%

In the survey, a publication question was asked regarding disability representation. There are 110 respondents who answered the question: How often does your institution's marketing materials include a diverse representation of students with disabilities? The respondents indicated sometimes (31%, n=36) and seldom (28%, n=32) most often; and never (13%, n=15), almost always (12%, n=14), and often (11%, n=13) least often. This is a significant finding that SWD are underrepresented in marketing materials, which could contribute to an adverse effect on student identity and sense of belonging.

Table 6. Representation in Marketing Materials

How often does your institution's marketing materials include a diverse representation of students with disabilities?		
Number of respondents (n=110)	% of respondents	Frequency
36	31%	Sometimes
32	28%	Seldom
15	13%	Never
14	12%	Almost Always
13	11%	Often

The following table and bar chart describe the data regarding the respondents who inform specific groups about the DSS office. The table was sorted by the variance between public and private institutions. The greatest variance is in the "other" category. Respondents who chose this option regularly included additional text to indicate that they also inform local high school staff about the existence of the DSS office. A larger percentage of the public institutions than the private institutions inform local high school staff members about their office. These data suggest that public institutions more actively recruit SWD than do private institutions. Both public and private institutions inform parents and families, prospective students, and admitted students about their office at relatively equally high rates. This is significant to assure SWD and their families are aware that there is an office to serve them. This is an early step in noting that there is a place for SWD to disclose a disability to receive support to assure that there is an equal playing field for them comparative to their peers without disabilities.

Table 7. Groups Informed about the Office

Percent of Respondents Who Inform These groups about the DSS Office by Public and Private Institutions			
Position	Public (n=54) - Percent of Total	Private (n=74) - Percent of Total	Variance
Other	11.11	2.70	8.41
Parents and families	87.04	90.54	3.50
Prospective students	100.00	97.30	2.70
Admitted Students	98.15	100.00	1.85

Figure 7. Groups informed about the office by public and private.

The following table provides the data regarding which groups are informed about the existence of the DSS office separated by private and public institutions and by if the office does or does not have a strategic plan in place for their office, not the next-level unit, but a strategic plan in place for their immediate DSS office. The majority of all respondents inform between two or three groups. However, respondents from public institutions with strategic plans are more likely to inform four to five groups (n=27; 11%) when the office has a strategic plan than when it does not. That was not a factor for private institutions. For public institutions, this is important to the structure of the office as before students can register, they must first be aware that there is an option for them to do so.

Table 8. Strategic Plan by Groups Informed

Public (n=55)				Private (n=76)		
# of Groups Informed about the DSS Office by if a Strategic Plan is in Place Show as % of Total						
Strategic Plan	0 to 1	2 to 3	4 to 5	0 to 1	2 to 3	4 to 5
Yes	0%	51%	11%	0%	36%	1%
No	2%	38%	0%	1%	58%	1%

Organization of the DSS Office

These data provided in this section relate to the office structures indicated by the survey respondents and data from IPEDS.

The following two tables provide data on the number of registered students as indicated by the directors in the survey for fall 2017. The majority of respondents have less than 500 students registered with their offices. The average number of registered SWDD is 230 with the average percent increase of registered SWDD over five years being 30 percent.

Table 9. Registered Students

# of students registered with your office in fall 2017		
Up to 250	77	52%
251 to 500	35	24%
501 to 750	12	8%
751 to 1000	6	4%
1001 to 1250	7	5%
1250 to 1500	5	3%
1500 to 1750	1	1%
1751 to 2000	2	1%
2001 to 2250	2	1%
2251 and up	1	1%
Total responses	14 8	100%

Table 10. Descriptive Statistics for Registered Students

Descriptive Statistics	# of students registered in fall 2017	% Increase in Registered SWDD
Mean	402.7	61.4
Median	230.0	30.0
Mode	450.0	5.0
Range	2,598.0	399.5
Minimum	2.0	0.5
Maximum	2,600.0	400.0
Count	148.0	135.0

The majority of the survey respondents indicated an increase in registered SWDD over

the past five years. Of the 153 responses, a majority or 95 percent (n=145) of the directors

indicated that the number of students who receive services from their offices has increased in the past five years. Of the 145 directors who indicated an increase in students registered with their offices in the past five years, 135 directors provided an estimated percentage increase in registered SWDD. The average percent increase is 61.4% of registered SWDD in the past five years. These data are consistent with the research that there is a continuing increase in the population of registered SWDD in postsecondary education (National Center for Education Statistics, 2014).

The following table provides the frequencies of the percentage increase in the number of registered SWDD over the past five years. The majority of survey respondents (n=74, 56%) indicated an increase in registered SWDD of 30% or below. There were 41% of respondents (n=53) who noted an increase in registered SWDD at 31% or above.

Table 11. Frequencies of Percent Increase in SWDD

Frequencies of % increase in SWDD		
Number of respondents (n=135)	% of respondents	Frequency
74	56%	30% and below
24	18%	31% to 60%
9	7%	61% to 90%
9	7%	91% to 120%
1	1%	121% to 150%
1	1%	151% to 180%
9	7%	181% and above

Figure 8 provides a visual representation of the percentage of increase in registered SWDD over five years as the independent variable against the number of registered SWDD in the fall of 2017 as the dependent variable. An upward trend is displayed. The figure suggests that the programs with smaller numbers of registered students tended to have the largest increases in the number of students registered. The data may suggest that the smaller programs are more effective at outreach.

Figure 8. Scatterplot of number of SWDD by percent increase of SWDD.

Figure 9 provides a visual representation of the number of registered SWDD in the fall of 2017 as the independent variable against degree of urbanization as the dependent variable. The largest number of SWDD are registered in institutions in cities and suburbs as opposed to towns and rural institutions.

Figure 9. Degree of urbanization by number of SWDD.

Figure 10 provides a visual representation of the percentage increase in registered SWDD over the past five years as the dependent variable against the Basic Carnegie Classification (Associate's, Baccalaureate; Master's; Doctoral; and Tribal) as the independent variable. This characteristic was included in the analysis to learn if registered SWDD graduate at higher rates at one or more of these classifications. The highest percentage of increases took place in Baccalaureate, Master's, and Doctoral institutions with the highest increase in institutions offering master's degrees as the highest degree available.

Figure 10. Percent increase in SWDD by Carnegie Classification.

The following tables show that there are larger numbers of SWDD registered in DSS offices within public institutions than within private institutions. DSS offices at private institutions have smaller populations of registered SWDD than the DSS offices at public institutions. The average number of registered SWDD at private institutions is 140; whereas the average number of registered SWDD at public institutions is 450.

Table 12. Count of SWDD

Count of # of Registered SWDD in Fall 2017					
Row Labels	Private	% of Total Private	Public	% of Total Public	Grand Total
2-151	44	52%	17	28%	61
152-301	18	21%	7	11%	25
302-451	13	15%	10	16%	23
452-601	2	2%	5	8%	7
602-751	3	4%	3	5%	6
752-901		0%	4	7%	4
902-1051		0%	4	7%	4
1052-1201	2	2%	3	5%	5
1202-1351	1	1%	1	2%	2
1352-1501	1	1%	2	3%	3
1502-1651		0%	1	2%	1
1802-1951		0%	1	2%	1
1952-2101		0%	2	3%	2
2552-2701		0%	1	2%	1
Grand Total	84	100%	61	100%	145

Tables 13. Descriptive Statistics for SWDD, Public

# of Registered SWDD at Public Institutions	
Mean	612
Median	450
Mode	450
Range	2,598
Minimum	2
Maximum	2,600
Sum	37,302
Count	61

Table 14. Descriptive Statistics for SWDD, Private

# of Registered SWDD at Private Institutions	
Mean	237
Median	140
Mode	350
Range	1,495
Minimum	5
Maximum	1,500
Sum	19,945
Count	84

Figure 11 is a histogram that provides the estimated number of registered SWDD in fall 2017 along with the frequency of these data by public and private institutions. Private institutions demonstrate more frequent populations of SWDD that are in the range of two to 151 registered SWDD. This indicates that the population sizes of SWDD are smaller in private institutions than in public institutions. This may be due to private institutions having smaller overall institutional enrollment than public institutions.

# of Registered SWDD at Public Versus Private Institutions

	2-151	152-301	302-451	452-601	602-751	752-901	902-1051	1052-1201	1202-1351	1352-1501	1502-1651	1802-1951	1952-2101	2552-2701
Private	44	18	13	2	3			2	1	1				
Public	17	7	10	5	3	4	4	3	1	2	1	1	2	1

# of Registered SWDD in Fall 2017

Figure 11. Histogram of number of SWDD by frequency of SWDD.

The following table shows that the majority of the offices report to a student services unit or an academic area. Of the 66 DSS offices that report to Student Affairs, 43.94% (n=29) of them received an increase in staffing when there was an increase in registered SWDD. Of the 58 DSS offices that report to Academic Affairs / Provost's Office, 31.03% (n=18) of them received an increase in staffing when there was an increase in registered SWDD. These data demonstrate that there is greater success for DSS offices to receive necessary staffing when the office reports to Student Affairs as opposed to Academic Affairs.

Table 15. Reporting Structure

Reporting				
DSS Office Reports To			**# with an increase in staffing**	**% (# reporting to office with increased staffing / total # reporting to office)**
Student Affairs	66	42.58%	29	43.94%
Academic Affairs / Provost's Office	58	37.42%	18	31.03%
Student Success Office	11	7.10%	2	18.18%
More than one office	5	3.22%	0	0.00%
Diversity Office	4	2.58%	0	0.00%
President's Office	3	1.93%	1	33.33%
Enrollment Management	3	1.93%	1	33.33%
Health Unit	2	1.29%	2	100.00%
Human Resources	1	0.65%	0	0.00%
Institutional Equity/Compliance	1	0.65%	1	100.00%
Advising	1	0.65%	0	0.00%
	155	100.00%		

Table 16 provides the next-level report for the DSS office and for the ADA compliance officer by public and private institution as the percentage of total. The largest variance for the DSS office reporting structure between private and public institutions is more public institutions have DSS offices that report to student affairs (53.23%) than private institutions (36.47%). More private institutions (34.12%) have a DSS office that reports to Academic Affairs than do public institutions (22.58%). There is a wider variety of reporting offices for the ADA compliance officer than for the DSS office. There highest percentage is for private institutions with the ADA compliance officer reporting to Human Resources, and more ADA compliance officers report to Human Resources in private institutions (28.95%) than in public institutions (16.39%). To visualize the concentrations of reporting offices for DSS and the variety of reporting offices for the ADA compliance officer, refer to Figures 12 and 13.

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Table 16. Reporting Structure: DSS and ADA

Office	DSS Office Reporting Structure		ADA Complaince Officer Reporting Office	
	% of Total			
	Public	Private	Public	Private
Academic Affairs	22.58	34.12	13.11	10.53
Diversity Office	4.84	1.18	16.39	6.58
Human Resources	-	1.18	16.39	28.95
Institutional Equity / Compliance	4.84	1.18	13.11	3.95
Legal Office	-	-	6.56	1.32
President's Office	3.23	1.18	11.48	3.95
Provost's Office	4.84	11.76	-	3.95
Student Affairs	53.23	36.47	14.75	22.37
Other	6.45	12.94	8.20	18.42

Figure 12. Bar chart of DSS reporting structure by private.

Figure 13. Bar chart of ADA reporting structure by public.

The findings in the previous paragraphs focus on the upward reporting structure. The findings on the downward reporting structure for the directors indicate that most only supervise the DSS office. Of the 138 responses, 46 directors (33%) oversee offices in addition to disability services. The majority of the directors have the responsibility of only the DSS office. The difference between public and private institutions regarding oversight of offices in addition to the DSS office is not significant as indicated by the following table.

Table 17. Oversight of Units

Percent of Respondents that Oversee Offices in Addition to DSS by Public and Private Institutions			
Office	Public (n=56) - Percent of Total	Private (n=79) - Percent of Total	Variance
Yes	35.71	32.91	2.80
No	64.29	67.09	2.80

Staffing

This section addresses the staffing levels and types of positions employed within the DSS offices.

Of the 137 directors who provided data on the estimated number of full-time staff members (excludes part-time employees) in their offices, the average number of employees is 2.8.

Table 18. Descriptive Statistics on Full-Time DSS Staff

ESTIMATED full-time staff members by FTE	
Mean	2.8
Median	1
Mode	1
Range	18
Minimum	0
Maximum	18
Sum	389.1
Count	137

The following table only includes full-time staff members. For the 12 institutions that have zero indicated for their institutions, SWDD may be served by part-time employees or student employees. The majority of the office staff are two full-time employees or less with an average of one full-time employee.

Table 19. Frequencies of Full-Time DSS Staff

ESTIMATED full-time staff members by FTE (n=137)	Frequency	% of 137 total
0	12	8.76%
.1 to 2	73	53.28%
2.1 to 4	24	17.52%
4.1 to 6	13	9.49%
6.1 to 8	5	3.65%
8.1 to 10	6	4.38%
10.1 to 12	1	0.73%
12.1 to 14	0	0.00%
14.1 to 16	2	1.46%
16.1 to 18	1	0.73%

Of the 140 who provided data on the estimated number of full-time and part-time staff members (excludes student employees) in their offices, the average number of employees is 1.83. These data show that full-time staff members are being supported by additional part-time staff members to complete the work of the office. This question was not asked in the survey, but it is possible that some of the part-time staff members work the academic year when more student contact is needed than during the fiscal year as there are generally fewer students enrolled during summer sessions than during the fall and spring.

Table 20. Descriptive Statistics on Full and Part-Time Staff

Estimated Total full-time and part-time staff members by FTE	
Mean	3.66
Median	1.83
Mode	1
Range	37
Minimum	0
Maximum	37
Count	140

Of the 145 respondents who indicated an increase in SWDD, 61% (n=89) of the directors indicated that staffing levels have not increased with the increase in SWDD being served by the office; 35% (n=51) indicated that staffing levels have increased with the increase in SWDD; 3% (n=5) did not respond to the question. Figure 14 provides a visual representation of the indication if staffing levels have increased over the past five years as the independent variable and the percentage increase in registered SWDD over the past five years as the dependent variable.

Figure 14 . Staffing level increase by percent increase in SWDD.

Figures 15 and 16 provide a visual representation of the total number of DSS office staff employees, excluding student employees, as the independent variable and the number of registered SWDD in fall 2017 as the dependent variable. The table suggests that offices with smaller populations of registered SWDD in fall 2017 have smaller staffs.

A theme that was derived from the qualitative analysis of survey respondent comments was *Theme 2 – Smaller offices have sufficient staffing.* For institutions with a smaller number of registered students, a theme emerged that the offices are sufficiently staffed to support the workload. There are some smaller offices where the number of SWDD has not increased in a way that has required additional staffing. "We are a very small institution and so far, the number of students is manageable by one person,"

"We are already well-staffed," "We still have a small total number of registered students so current staffing levels are adequate," and "Staffing levels remained the same since the number is still relatively lower than other schools' ratio of students to disability Services Coordinator." There are other directors whose SWDD population is increasing, and the staffing is being addressed to meet the needs. "We are a small school, and our overall attendance is increasing, and more students are disclosing disability status. We are currently in the process of adding an additional staff member."

Figures 15 and 16 show a trend of increasing employees (total of full-time and part-time) with the number of registered SWDD.

Figure 15. Scatterplot of number of SWDD by number of staff.

Figure 16 includes the same information as listed Figure 15 with the removal of one outlier of 37 FTEs and 2,600 registered SWDD in the fall of 2017. It shows a trend of increasing employees (total of full-time and part-time) with an increase in the number of registered SWDD in a format that is easier to visualize with the exclusion of the outlier. An increasing trend of additional staff with an increase in the number of registered SWDD is not consistent with the theme derived from the respondent comments that there is insufficient staffing to meet the needs of larger offices. Reviewing these data together suggests that the additional staff are not employed quickly enough or in a high enough volume to meet the needs of the office. From the respondent comments under the theme *lack of operational resources* and the subtheme *Staffing,* here are two respondent comments that relate to insufficient staffing relative to the increase in registered SWDD over the past five years at their institution. "Not all positions are permanently funded yet," (200% increase in SWDD); "Staffing has increased, but we are still understaffed by 1 FTE for case management," (63% increase in SWDD).

Figure 16. Scatterplot of number of SWDD by number of staff with outliers removed.

There were 152 responses to the question regarding the estimated number of graduate and undergraduate student employee hours. The average number of student employee hours within an office is approximately 39 as shown in the following two tables. Many offices (n=56) do not use student employees to support their offices; however, a large number of offices (n=72) are supported by student employees who work an average between one and 60 hours per week. These data demonstrate that a large number of offices enhance office staffing to meet needs by hiring student employees.

Table 21. Descriptive Statistics on Graduate and Undergraduate Employee Hours

ESTIMATED graduate and undergraduate student employee hours	
Mean	39.15
Median	20
Mode	0
Range	700
Minimum	0
Maximum	700
Count	152

Table 22. Frequencies on Graduate and Undergraduate Employee Hours

ESTIMATED graduate and undergraduate student employee hours	Frequency
0	56
1 to 20	30
21 to 40	23
41 to 60	19
61 to 80	6
81 to 100	6
101 to 120	4
121 to 140	1
141 to 160	1
161 to 180	1
181 to 200	0
201 and above	5
	152

Figure 17 provides a visual representation of full-time and part-time DSS office staff member FTEs as the independent variable and the number graduate and undergraduate student employee hours as the dependent variable. There appears to be an upward trend as DSS office staff member FTEs increase, student employee hours also move in an upward direction.

Figure 17. Scatterplot of number of staff FTEs by number of student employee hours.

Figure 18 includes the same information as listed in Figure 17 with the removal of two outliers: one outlier of 37 FTEs with 0 student employee hours and one with 15 FTEs with 700 student employee hours. It shows a trend of increasing graduate and undergraduate student employee hours as full-time and part-time employee FTEs increase in a format that is easier to visualize with the exclusion of the outliers.

Figure 18. Scatterplot of number of staff FTEs by number of student employee hours with outliers removed.

The following table shows the frequency of the percentage increase in registered SWDD over five years along with an indication of whether or not there was also an increase in staffing. The table shows more respondents (n=85) answering that there was not an increase in staffing than those (n=50) who indicated an increase in staffing. This is consistent with the theme that was derived from the text that respondents included in the survey. From the respondent comments under the theme *lack of operational resources* and the subtheme *Staffing,* here are some respondent comments that relate to insufficient staffing relative to the increase in registered SWDD over the past five years at their institution. "Not all positions are permanently funded

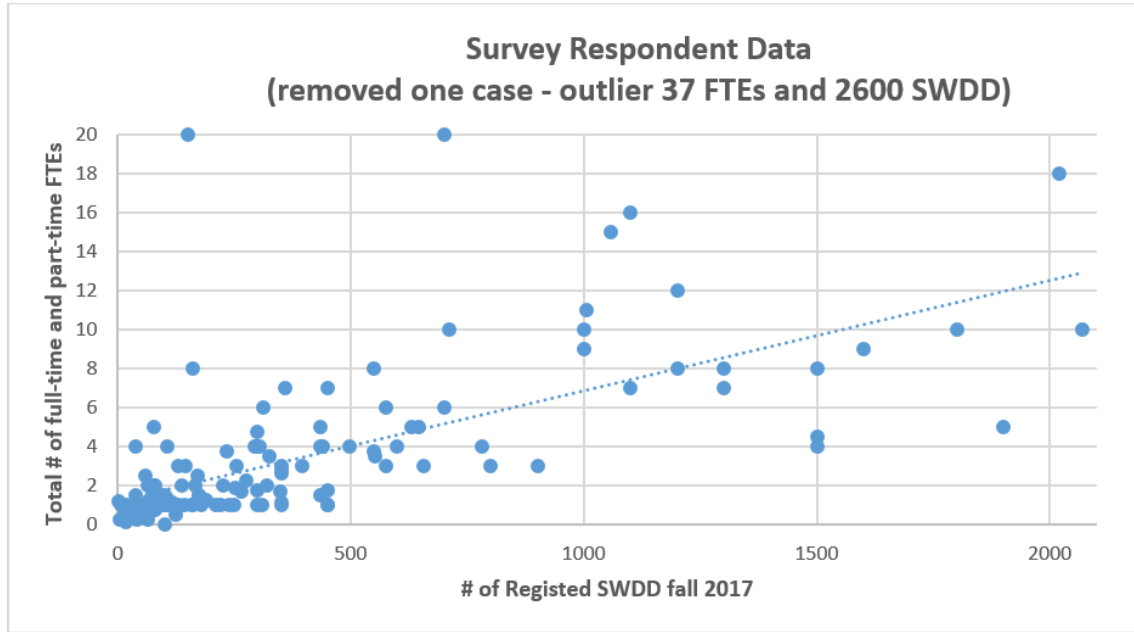yet," (200% increase in SWDD); "Staffing has increased, but we are still understaffed by 1 FTE for case management," (63% increase in SWDD); "The institution does not feel that there is a need for more staff, despite increased number of students being served by the office," (50% increase in SWDD); "University budget constraints impacted staffing levels," (45% increase in SWDD); "We don't have the resources to hire additional staff members," (32% increase in SWDD); "Though we have added additional Student Staff, FTE have never been increased past 1 FTE," (30% increase in SWDD); "Requests for staffing increases have been made, but were rejected. Was told to do more with less," (20% increase in SWDD); "Staffing level is the same that is was 15-20 years ago when the number of students registered was less than half of what it is now," (20% increase in SWDD); "Staffing was actually reduced in Spring 2018," (20% increase in SWDD); and "We are in a constant flux of being under-resourced and under-staffed," (9% increase in SWDD).

Table 23a. Count of Increase in Percent of SWDD by Staff Increase

Count of % increase is SWDD over 5 years	No Staff Increase	% of Total	Staff Increase	% of Total
0 - 10	18	21.18	8	16.00
11 - 20	14	16.47	6	12.00
21 - 30	15	17.65	3	6.00
31 - 40	11	12.94	5	10.00
41 - 50	4	4.71	2	4.00
51 and above	23	27.06	26	52.00
Total	85	100.00	50	100.00

The following bar chart portrays a bar graph of the increase in registered SWDD over the last five years based upon the percentage increase separated by whether there was a staffing increase or not. These data are the same as the preceding table. The majority of the increase in registered SWDD occurred in the percentages of 60% or less without an increase in staffing.

There is a smaller number of offices that received staff increases when there was an increase in registered SWDD at 60% or less.

Figure 19. Bar chart of percent increase in SWDD by staffing level increase.

The following table displays the estimate percentage increase in the number of registered SWDD separated by small, medium, large and extra-large increases in SWDD. The table includes whether there was an increase in staffing levels and is separated by public and private institutions. The only respondents that were included in the table were those who answered the questions regarding if there was an increase in registered SWDD, if there was an increase in staffing, and also provided a percentage increase of registered SWDD. That included respondents representing 54 public institutions and 79 private institutions. The table depicts that staff

increases were much more prevalent within private institutions even when the increase in

registered SWDD was less than 25.5%. There no respondents from private institutions who

indicated that there was not an increase in staffing along with the increase in registered SWDD.

All 79 private respondents indicated a staffing increase when there was an increase in registered

SWDD. Conversely, public institutions were less likely to have increased staffing. When the

increase was in the large or extra-large category, seven (13.0%) or public respondents did not

receive an increase in staffing.

Table 23b. Count of Increase in Percent of SWDD by Staff Increase, Public and Private

	Public (n=54)				Private (n=79)			
	5 year % Increase in SWDD							
	# of Increases in SWDD by Size of the Increase							
Staff Increase?	Small .5 -25.5%	Medium 25.6 - 50.5%	Large 50.6 - 125.5%	XL 125.6 - 400.5%	Small .5 -25.5%	Medium 25.6 - 50.5%	Large 50.6 - 125.5%	XL 125.6 - 400.5%
Yes	5; 9.3%	3; 5.6%	9; 16.7%	3; 5.6%	41; 51.9%	18; 22.8%	10; 12.7%	10; 12.7%
No	18; 33.3%	9; 16.7%	2; 3.7%	5; 9.3%	0; 0%	0; 0%	0; 0%	0; 0%

From the respondent comments under the theme *lack of operational resources* and the

subtheme *Staffing,* some of the respondents who had an increase in registered SWDD over the

past five years along with an increase in staffing, multiple comments indicated that increased

staffing may not be sufficient to meet needs. "We have combined part time lines to add

additional administration support," (200% increase in SWDD); "We have added one

accommodation consultant, but our caseloads still run very high," (83% increase in SWDD);

"Staffing has increased, but we are still understaffed by 1 FTE for case management," (63%

increase in SWDD); "One more position has been created, but there has not been a fully staffed office for a significant amount of time (6 months total)," (50% increase in SWDD); "Not fast enough; we work with very large summer and continuing education programs as well as employees," (40% increase in SWDD); and "Though we just received permission to have a professional staff exam coordinator, this has not made an impact on the number of students staff members see in the office to review accommodations, strategy development, etc.," (38% increase in SWDD).

Here are some comments from a number of respondents that did not convey dissatisfaction with the increase in staffing along with the increase in registered SWDD. "We have added one additional FT staff member for intakes and separated out the Accommodated Testing Services and added two positions there," (300% increase in SWDD); "Added one full-time ass't director," (210% increase in SWDD); "One person office is now a 2 person full-time staffed office," (200% increase in SWDD); "I was able to hire a (sic) Accommodations Coordinator two years ago," (150% increase in SWDD); "We have been able to add a full time Asst Director and a full time Adaptive Technology Specialist," (110% increase in SWDD); and "Additional leadership position (Associate Director) and 5 members of an AT Accessibility Team in IT Services," (60% increase in SWDD).

The following table provides data on the types of positions that are available within DSS offices by public and private institutions sorted by the percent variance. These data show much more specialization in offices at public institutions than in private institutions. This may be related to the information that previously demonstrated that there are larger populations of SWDD registered at public institutions than at private institutions. Smaller populations may result in fewer staff members in the DSS office, which could equate to less specialization. The

largest percent variance is for the administrative assistant position. More offices in public

institutions (53.57%) have this position than private institutions (21.92%). This is also accurate

for the assistant director position where public institutions have the position in 48.21% of the

case; whereas private institutions have this position in 17.81% of the cases. There are no cases in

private institutions where an alternative format specialist is available. The position is available in

28.57% of the offices in public institutions. The testing coordinator position is available in

42.86% of offices at public institutions and only in 17.81% of private institutions. Smaller

populations of registered SWDD may not require the use of a testing center. A disability

specialist/accessibility specialist is available in 51.79% of public institutions and 27.40% of

private institutions. Again, this could be relative to population size of SWDD.

Table 24. DSS Position Types

Percent of Respondents Whose Offices Include These Positions by Public and Private Institutions			
Position	Public (n=56) - Percent of Total	Private (n=73) - Percent of Total	Variance
Administrative Assistant	53.57	21.92	31.65
Assistant Director	48.21	17.81	30.40
Alternative Format Specialist	28.57	-	28.57
Testing Coordinator	42.86	17.81	25.05
Disability Specialist/Accessibility Specialist	51.79	27.40	24.39
American Sign Language (ASL) Provider	23.21	4.11	19.10
Assistive Technology Expert	25.00	6.85	18.15
Closed Captionist	12.50	-	12.50
Dedicated Blindness and Low Vision Staff Person	10.71	1.37	9.34
Other	21.43	12.33	9.10
Dedicated Academic Advisor	12.50	4.11	8.39
Director	66.07	73.97	7.90
Dedicated Career Counselor	8.93	1.37	7.56
Dedicated Personal Counselor	7.14	-	7.14
Communication Access Real-Time Translation (CART) Provider	7.14	1.37	5.77
Marketing Specialist	5.36	-	5.36
Disability Educator	5.36	1.37	3.99
Transition Coach	5.36	1.37	3.99
Advocate	3.57	4.11	0.54

The following bar chart provides a visual representation of the position data by percentage available at both the public and private institutions.

Figure 20. Bar chart of percent of position types by public and private.

Funding

This section of the structure component in Figure 1 addresses the types of funding used by the DSS offices as well as the availability of funding for their offices. Of the 153 responses, 88% (n=134) indicated that their offices are supported by the general fund; 19 respondents indicated their offices are supported by endowments; 15 respondents indicated their offices are supported by external grant funds; 7 respondents indicated their offices are supported by internal grant funds. Of the six respondents who indicated that general fund did not support their

accommodation expenses, two represented Baccalaureate Colleges and Special four-year focus; two represented Master's Colleges and Universities (Small, medium, large); one represented Doctoral Universities (all types of research activity - highest, higher, moderate); and one represented a Tribal College. The following table shows funding type by institution type.

Table 25. DSS Funding Types by Carnegie Classification

Funding Types								
Carnegie Classification	G/F # of respon-dents	G/F % of respon-dents	Endow-ments # of respon-dents	Endow-ments % of respon-dents	External Grants # of respon-dents	External Grants % of respon-dents	Internal Grants # of respon-dents	Internal Grants % of respon-dents
Associate's and two-year special focus (n=2)	2	100.00%	-	0.00%	-	0.00%	-	0.00%
Baccalaureate Colleges & Special four-year focus (n=55)	48	87.27%	2	3.64%	7	12.72%	3	5.45%
Master's Colleges & Universities (Small, medium, large programs) (n=62)	55	88.71%	2	3.23%	7	11.29%	3	4.84%
Doctoral Universities (all types of research activity - highest, higher, moderate) (n=28)	26	92.86%	1	3.85%	1	3.57%	1	3.57%
Tribal College (n=2)	1	50.00%	1	100.00%	-	0.00%	-	50.00%

The following table displays funding types separated by public and private institutions. There is little difference in the funding types used. The consistency is displayed in Figure 21 for ease of visualization.

Table 26. DSS Funding Types by Public and Private

Funding Types								
Carnegie Classification : Sector of Institution	G/F # of respon-dents	G/F % of respon-dents	Endow-ments # of respon-dents	Endow-ments % of respon-dents	External Grants # of respon-dents	External Grants % of respon-dents	Internal Grants # of respon-dents	Internal Grants % of respon-dents
Public, 4-year or above (n=63)	54	85.71%	9	14.29%	6	9.52%	3	4.76%
Private, 4-year or above (n=86)	78	90.70%	10	11.62%	9	10.46%	4	4.65%

Figure 21. Bar charts of funding types by public and private.

	G/F % of respondents	Endowments % of respondents	External Grants % of respondents	Internal Grants % of respondents
■ Private, 4-year or above (n=86)	90.70	11.62	10.46	4.65
■ Public, 4-year or above (n=63)	85.71	14.29	9.52	4.76

Percent of Total Respondents for Public / Private Institutions

From the survey respondent comments provided, a theme regarding funding derived indicating that directors oftentimes seek alternative funding to meet needs. *Theme 4 – Fund types, in addition to general fund, are sought*. "We have been fortunate to have gift funding," "Federal TRIO grant covers 50% of some positions which helps fund supplies and training," "Federal TRIO grant covers 50% of some positions," "Some funding is available through grants, at times," "Grant funds – Director is PI for several private foundation grants that have allowed for purchasing Assistive Technology and Learning Software for students," "We receive reimbursements from Voc Rehab for interpreting, CART and other provided services,"

"Individual donations," and "We have program revenue, monies from enhanced services to support complex needs beyond accommodations."

The following table demonstrates which offices financially support accommodation funding separated by public and private institutions sorted by the variance. The only notable difference is that 82.76% of offices in public institutions receive funding for accommodations from Diversity Offices; whereas 69.14% of offices in private institutions receive funding for accommodations from Diversity Office. All others consistently support both public and private institution offices. This is visualized in the bar chart labeled Figure 22.

Table 27. Accommodation Funding by Public and Private

Percent of Respondents Who Receive Accommodation / Modification Funding from These Offices by Public and Private Institutions			
Office	Public (n=58) - Percent of Total	Private (n=81) - Percent of Total	Variance
Diversity Office	82.76	69.14	13.62
Other	22.41	14.81	7.60
President's Office	8.62	4.94	3.68
Office of the Provost / Academic Affairs	32.76	32.10	0.66
Next unit-level (example: vice presidential area, student affairs)	41.38	40.74	0.64

Figure 22. Bar chart of accommodation funding by public and private.

The following table show that of the 134 respondents who answered the question about whether they have sufficient funds for accommodations, 90% answered with either strongly agree or agree; whereas only 10% answered with strongly disagree or disagree. When analyzing the survey respondent comments, this theme emerged: *Theme 3 – Sufficient financial resources for required accommodations are available.* "We are given what we need for students but nothing else," "We are given what we need for students," "so far, the accommodations requested are at no cost," "Necessary items, such as accommodations may not be in the budget, but can get additional funding when requested," "When needed, we do purchase needed software or accommodation related items," "If the expense is needed for an accommodation-related reason, we can spend to appropriately accommodate," "There is special funding for all assistive technology," "The office budget is sufficient to cover the costs of accommodations," "The office

budget is sufficient to cover the costs of accommodations, and while the last two years, we have operated with a deficit (the first time in many years), we have the support of our division to cover any costs that run over," "We have sufficient funds for our current level of accommodations," "We have sufficient funds for our current level of accommodations. Should we have a blind or deaf student register, we would need almost all of the cost for accommodations covered outside of our current budget," "All available funds are allocated for the needs of the students with documented disabilities," "We get what we need, if we need it for a specific student situation," and "if we need it for student access, money is found."

Despite having funds available for accommodations, a theme emerged from the qualitative open-ended questions in the survey response relative to a lack of available financial resources for expenses other than accommodations. *Theme 1 – Lack of operational resources* emerged as a theme. The following table provides information on if the directors agree or disagree that funds are available for the specified categories. Directors indicated strongly agree or agree that both office supplies (92%) and accommodations (90%) have funds available when needed. Directors indicated strongly agree or agree that programming (73%) has funds available when needed. For the remainder of the categories, only approximately half of the directors indicating that there is funding available for training, office furniture, and staffing.

Table 28. Fund Availability by Expense Type

The DSS office has funds available for the following		
Categories	**Strongly Agree / Agree**	**Strongly Disagree / Disagree**
Office Supplies (n=137)	92%	8%
Accommodations (n=134)	90%	10%
Programming (n=131)	73%	27%
Training for staff members (n=131)	64%	36%
Training for faculty (n=129)	59%	41%
Office Furniture (n=131)	56%	44%
Training for teaching assistants & part-time instructors (n=123)	46%	54%
Adequate Staffing (n=135)	41%	59%

Respondent comments supporting the subtheme of *lack of operational resources –*

overall operations: "limited budget," "We have very limited funds for the office to make

improvements, program, and offer a variety of professional development opportunities," "My

office is currently without a budget," "We are severely under-resourced financially," "Funds are

scarce for items that are not a pressing need," "Budget has been cut twice over the last 3 years,"

and "Low resources." Here are some respondent comments supporting the subtheme of *lack of*

operational resources – professional development and professional associations: "This does not

leave money for professional development or 'extras' such as professional memberships," and

"no $ in the budget for professional development or training." Here are some respondent

comments supporting the subtheme of *office supplies:* "Things like additional office supplies and

furniture are repurposed from other areas of our campus," "there is no longer term planning (for

when computer need to be replaced, software needs upgraded, and furniture becomes broken,

etc.)."

Accommodations and Documentation

This section addressed the accommodation characteristic of the structure component in Figure 1.

Of the respondents who completed the survey on behalf of public institutions (n=63), 60 percent (n=38) indicated that they have a testing center; whereas respondents who completed the survey on behalf of private institutions (n=86), 44 percent (n=38) indicated their institutions have testing centers.

The following table indicates the type of accommodation, the percentage of respondents whose office offers these types of accommodations to SWDD separated by public and private institutions and sorted by variance. A majority of directors offer a wide range of accommodations. Tutors to assist with ongoing coursework are offered more frequently at private institutions (63.16%) than public institutions (38.18%). Counseling about vocational rehabilitation services is offered more frequently at public institutions (43.64%) than private institutions (21.05%). Career or placement services specifically designated for students with disabilities is offered more frequently at public institutions (40.00%) than private institutions (19.74%).

Tutoring, vocational rehabilitation counseling, and career counseling designed specifically for SWDD are significant in that they consider students holistically as viewed through the lens of student identity development theory. These offerings extend beyond what is mandated by law for providing equal access to SWDD.

Respondents in 65.45 percent of offices in public institutions indicated the use of real-time captioning; whereas only 40.79 percent of respondents in private institutions use this as an accommodation. Respondents in 83.64 percent of offices in public institutions indicated the use

of sign language interpreters; whereas only 65.79 percent of respondents in private institutions use this as an accommodation. Both of these accommodations may be a requirement for some SWDD to have access to education, and if it is not provided, leaves the institution open to a potential lawsuit unless the access can be offered in another way. It is possible that the private institutions have not yet had a request from a SWDD for these accommodation types.

Priority class registration is offered more frequently at public institutions (74.55%) than private institutions (56.58%). SWDD who have mobility challenges may have difficulty maneuvering from one class to the next in a short time period. This may not be an issue for institutions where courses do not generally fill up quickly. Paratransit for on-campus mobility is offered more frequently at public institutions (27.27%) than at private institutions (11.84%). This accommodation is not a legal requirement as it is a personal request. However, if a SWDD has a mobility challenge and will take more time to get from one class to the next, some type of accommodation may become necessary.

Table 29. Accommodations Available by Public and Private

Percent of Respondents Who Offer These Types of Accommodations / Modifications by Public and Private Institutions			
Accommodation / Modification Type	Public (n=55) - Percent of Total	Private (n=76) - Percent of Total	Variance
Tutors to assist with ongoing coursework	38.18	63.16	24.98
Real-time captioning	65.45	40.79	24.66
Counseling about vocational rehabilitation services	43.64	21.05	22.59
Career or placement services specifically designated for students with disabilities	40.00	19.74	20.26
Priority class registration	74.55	56.58	17.97
Sign language interpreters/transliterators	83.64	65.79	17.85
Paratransit for on-campus mobility	27.27	11.84	15.43
Assistance with learning strategies or study skills	63.64	75.00	11.36
Adaptive equipment and technology (e.g., assistive listening devices, talking computers)	94.55	85.53	9.02
Video captioning option for faculty and staff	36.36	28.95	7.41
Disability benefits counseling (e.g., SSI, SSDI, Medicare, Medicaid)	10.91	5.26	5.65
Scribes for tests	81.82	76.32	5.50
Food storage for students with severe allergies to bring their own meals	29.09	23.68	5.41
Oral interpreters/transliterators	43.64	39.47	4.17
Disability resource handbook for students	27.27	23.68	3.59

Table 29—Continued

Accommodation / Modification Type	Public (n=55) - Percent of Total	Private (n=76) - Percent of Total	Variance
Readers	72.73	76.32	3.59
Audio textbooks/digitally recorded texts	89.09	85.53	3.56
Independent living skills training	7.27	3.95	3.32
Additional fee-based services for enhanced support	7.27	10.53	3.26
Physical adaptions to classrooms	61.82	59.21	2.61
Transportation for temporary disabilities	29.09	31.58	2.49
Classroom note takers	80.00	77.63	2.37
Course substitution or waiver	65.45	63.16	2.29
Social skills training	21.82	19.74	2.08
Moving classes to a more accessible location	80.00	78.95	1.05
Alternative exam formats (e.g., large print, Braille, audio formats)	92.73	93.42	0.69
Additional exam time	100.00	100.00	-

Figure 23 is a bar graph that provides a visual representation of various the data provided in the preceding table to show the percentage of each accommodation type offered by public and private institutions.

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Figure 23. Bar chart of accommodation types by public and private.

There are 131 responses to the following question: Which of the following does your office accept as documentation for services? The respondent select multiple documentation types. The majority of the respondents indicated the following acceptable documentation: Letter, report, or test from a mental health professional (psychologist, social worker, etc.) (98%, n=129); Letter, report, or test from a medical doctor or psychiatrist (98%, n=128); High school IEP Plan (73%, n=96); and High school 504 Plan (71%, n=93). Other documentation types selected with

less frequency by directors are available in the following table. The data suggest that many

offices may use documentation to control the demand for services. The offices that require the

SWDD to produce specific documentation are used by many more offices than offices that

depend on the inputs from individuals other than the student.

Table 30. Documentation Accepted

Which of the following does your office accept as documentation for services?		
Number of respondents (n=131)	% of respondents	Documentation types
129	98%	Letter, report, or test from a mental health professional (psychologist, social worker, etc.)
128	98%	Letter, report, or test from a medical doctor or psychiatrist
96	73%	High school IEP Plan
93	71%	High school 504 Plan
40	31%	Recommendations regarding past supports that worked from teachers or paraprofessionals
18	14%	Communication from faculty member
14	11%	Test or report from a faculty member who has the student in class
2	2%	Letter from a family member

The following table separates the preceding table by private and public institutions sorted

by the variance between the two. The preceding table includes 131 respondents. The forthcoming

table only includes 119 respondents because not all of the respondents were identified as

representing a public or private institution. Documentation types accepted at public institutions

and private institutions are relatively consistent.

Table 31. Documentation Type by Public and Private

Percent of Respondents that Use these Documentation Types by Public and Private Institutions			
Documentation Type	Public (n=50) - Percent of Total	Private (n=69) - Percent of Total	Variance
Recommendations regarding past supports that worked from teachers or paraprofessionals	35.19	27.03	8.16
High school 504 Plan	74.07	68.92	5.15
High school IEP Plan	75.93	71.62	4.31
Letter, report, or test from a medical doctor or psychiatrist	100.00	95.95	4.02
Communication from faculty member	11.11	14.86	3.75
Letter from a family member	3.70	-	3.70
Test or report from a faculty member who has the student in class	9.26	12.16	2.90
Letter, report, or test from a mental health professional (psychologist, social worker, etc.)	100.00	97.30	2.70
Other	12.96	13.51	0.55

Figure 24 is a visual representation of the preceding table to demonstrate the relative

consistency of documentation types accepted between public and private institutions.

Figure 24. Bar chart of documentation types by public and private.

Figure 25 shows the number of various types of documentation allowed as the independent variable against the dependent variable of number of registered SWDD in fall 2017. Generally, the offices with the higher registered SWDD allow SWDD to provide between two and five types of documentation. On average, directors that accepted five or more types of documentation had 775 registered SWDD. Whereas, directors who accepted four and below types of documentation, only averaged 270 registered SWDD.

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Figure 25. Number of documentation types by number of SWDD.

There were 121 directors who responded to the question regarding the currency of documentation as show in Table 32. There are 21% (n=25) who indicated that the documentation must not be more than three years old; 25% (n=30) who indicated that responses must not be more than five years old; 55% who indicated that documentation age is not generally a restriction (n=66). Obtaining current documentation could be a barrier for SWDD as it, oftentimes, takes time and money for a professional to perform tests.

Table 32. Documentation Currency

How current must documentation be?		
Number of respondents (n=121)	% of respondents	Documentation types
66	55%	Documentation age is not generally a restriction
30	25%	No more than five years old
25	21%	No more than three years old

The following table provides data from the preceding table separated by public and private institutions. The preceding table includes 121 respondents; whereas the forthcoming table includes 118 respondents. This difference is because some institutions were not identifiable as public or private. Offices within public institutions indicated that documentation age is not generally a restriction more frequently (60.78%) than respondents representing private institutions (47.76%). Private institutions are more restrictive relative to documentation currency than public institutions.

Table 33. Documentation Currency by Public and Private

Percent of Respondents that that Indicated Documentation Currency by Public and Private Institutions			
Documentation Currency	**Public (n=51) - Percent of Total**	**Private (n=67) - Percent of Total**	**Variance**
Documentation age is not generally a restriction	60.78	47.76	13.02
No more than three years old	15.69	25.37	9.68
No more than five years old	23.53	26.87	3.34

Figure 26 shows the preceding table in the form of a bar chart to demonstrate the relative consistency between public and private institutions with the exception that more public institutions indicate that documentation is not generally a restriction than those representing private institutions.

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Figure 26. Bar chart of documentation currency by public and private.

The average number of registered SWDD in offices where documentation age is not generally a restriction is 523; whereas the average of registered SWDD in offices where documentation many be no more than three or five years old is 282. These data suggest that smaller offices are more restrictive. This may also demonstrate that institutions are intentionally maintaining smaller populations of registered students by requiring specific and current documentation that may not be generally accessible to all students.

During the qualitative data analysis of the survey respondent comments, there was an abundance of information regarding documentation. The comments suggest that more refined questions are needed on future surveys.

Theme 5 – Subjective documentation age and type emerged. Age and type of

documentation needed to be combined as respondents oftentimes commented on them together

as they are intertwined when considering documentation. Here are some of the comments to

related to this theme.

Subjective documentation age and type – subtheme disability type. "This is determined

based on the disability and type of document," "Depends on disability, functional limitation, and

accommodation requests," "If disability is visually apparent, documentation is recommended for

services such as GRE or future educational situations, but this institution may grant

accommodations based solely on staff observations and student self-report (e.g. student with

muscular dystrophy using electric wheelchair)," "It depends on the disability type as well as

whether the student was tested as an adult and the documentation could apply to the current

setting," "Dependent on nature of disability," "Depends upon the type of disability as to the

current nature of the documentation," "Generally no more than 3 years old, but it also depends

upon the disability type and what accommodations the student is asking for,"

Subjective documentation age and type – subtheme age based upon disability.

"Generally, within 3-5 years, mental health conditions require an annual update," "Prefer within

3-5 years, require adult norms for LD testing, provide provisional baseline accommodations for

one semester if additional documentation is requested," "It depends on the condition. For mental

health or psychological conditions documentation needs to be current: 6 months - 1 year,"

"Documentation depends on the disability. Psych and Medical must be current. ADHD, LD must

be adult testing if psychoeducational evaluation provided," "Depends on nature of disability, and

nature of the documentation. Psychological disabilities, generally, within one year," "The age is

far less impactful with some impairments, while for psychological and ADHD there is greater

need for current to be within (sic) 12-18 months," "Depends on the disability. LD no more than five years. MH no more than three years; often more recent preferred," "Disability documentation must not be more than 3 years old for students with ADD/ADHD and not more than 5 years for students with Learning Disability (LD)"

   Subjective documentation age and type – subtheme varies. "Must represent current functional limitation," "Determined on a case by case basis," "generally no more than three years old however older documentation may be accepted on a case by case basis," "Appropriate age of documentation is determined on a case-by-case basis. However, documentation must support that condition is current and there is a need for the accommodation," "Not as concerned about age of documentation as I am about relevance," "We would like it to be 'age appropriate', but we will provide some accommodations while doc issues are addressed," "With flexibility on the age of the document," "It depends on the situation," "3 years preferred, but will accept as old as 5 years," "Depending on the Disability or if the accommodations are no longer working for the student - we may suggest updating the evaluation," "Generally no more than 5 years old but this is evaluated on a case-by-case basis and in terms of the specific diagnoses," "We try to be flexible, but it has to be a medical or educational professional with some ongoing knowledge of the student and his or her situation," "We do not have a specific formula, but we combine a student's self-report along with documentation from a variety of possible sources," "I accept any form of documentation, the first source being the student," "Acceptable documentation is determined on a case-by-case basis," "It depends on what is needed to demonstrate barrier to access," "We adhere to the AHEAD guidance on documentation, which means that we do not routinely require students to provide third party documentation," "We utilize good self-report and try to get other documentation, but sometimes the self-report is sufficient if nothing else is

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available," "Student self-report can sometimes be enough (typically for physical disabilities)," "Documentation of ongoing issues can be backed up by documentation that is older than 5 years as proof that this issues is not new to the student," and "documentation varies from different students and their needs.

Subjective documentation age and type – subtheme static. "Depends on if the diagnosis is static or not," "Time limits are disability dependent: 3-5 years, maybe more, if the nature of the disability is generally stable over time (e.g. dyslexia, cystic fibrosis, etc.). Approx. 1 year if the disability is less stable over time (e.g. depression and anxiety diagnoses)," "Currency over recency (sic). If the docs are not recent, but are still a valid measure (sic) of the student-- then it is current. Doc age is viewed as a holdover from the IEP days," "Depends on the documentation, for example if documentation is a condition that will not change we will most like not need any other type of documentation, but would like updated information. If there has been treatment for certain conditions," "unless permanent (ex: physical, sensory, mental). If documentation was within 5 years when we first met the student, the documentation is utilized will be consider sufficient throughout their journey,"

> If the student only has older documentation for a learning disability-- for example a neuropsych exam from middle school, especially if it is for disability that is something that does not change over time (dyslexia, for example) then we would accept that older documentation and we would gather the more current information from the student's self report. For medical and psych conditions that can change more rapidly, we require current documentation. This is because of the fact that things change, but also because we expect students with disabilities to be in treatment and working towards wellness and self care, and that treatment provider can provide the documentation.

Planning

This section addresses the strategic plan, policies, and procedures characteristic under the structure component in Figure 1.

There were 134 directors who responded to the question of whether or not the office has a strategic plan (not the next level but specific to your unit). Sixty-five respondents have office strategic plans; whereas sixty-nine offices do not. Of the respondents who completed the survey on behalf of public institutions (n=63), 56 percent (n=35) indicated that they have an office strategic plan; whereas respondents who completed the survey on behalf of private institutions (n=86), 33 percent (n=28) indicated they have an office strategic plan. Public institutions with larger populations of registered SWDD are more likely to have office strategic plans than private institutions.

There are 132 responses to the question regarding which policies and procedures were written for their offices. The majority of the written policies and procedures are in the range of three to six. The following table provides the details.

Table 34. Number of Policies and Procedures

Number of Written Policies and Procedures		
Number of respondents (n=132)	% of respondents	Number of policies and procedures
5	4%	0
10	8%	1, 2
39	30%	3, 4
58	44%	5, 6
16	12%	7, 8
4	3%	9, 10

One hundred and sixteen (88%) respondents have written policies or procedures on emotional support/therapy/assistance animals in residence halls as an accommodation; one hundred and twelve (85%) respondents have written Accommodations/Modifications policies or procedures; one hundred and seven (81%) respondents have written service animals policies and procedures; one hundred and four (79%) respondents have written extended testing policies or procedures; seventy-seven (58%) respondents have written flexible attendance polices or procedures; and details regarding policies or procedures for lesser percentages can be viewed in the following table. These data suggest that the most prevalent policies and procedures are in the areas that are mandated by regulations. Thus, they are likely easier for directors to put into practice while a procedure or policy on topics such as universal design for instructors or ways to accommodate students whose faiths make it difficult to come into contact with specific breeds of animals are not legal requirements and could be more challenging for directors to receive approval to implement. This could be viewed through the lens of Punctuated Equilibrium Theory where the directors are able to implement small, incremental changes, but when the changes impact the entire institution and do not have a legal mandate requiring them, a window of opportunity must be found before the major, fundamental change can take place.

Table 35. Types of Policies and Procedures

Types of Written Policies and Procedures		
Number of respondents (n=132)	% of respondents	Number of policies and procedures
116	88%	Emotional support/therapy/assistance animals in residence halls as an accommodation
112	85%	Accommodations/Modifications
107	81%	Service animals
104	79%	Extended testing
77	58%	Flexible attendance
39	30%	Clause in Purchasing policy or procedure that software must be accessible
27	20%	Students with allergies to specific animals
26	20%	Universal Design for instructors
15	11%	Students with phobias to specific animals
6	5%	Ways to accommodate students whose faiths make it difficult for them to touch specific species of animals

The following bar chart provides the percentage of each procedure or policy by public and private institution. A purchasing policy for accessible software is more frequently established in public institutions (47.10%) than in private institutions (17.30%). Policies on extended testing, flexible attendance, accommodations, emotional support animals in residence halls, and service animals are frequently implemented at both public and private institutions.

Figure 27. Bar chart of procedures or policies by public and private.

The following table depicts the number of written procedures and policies with a strategic plan in place for the DSS office, and the number of written procedures and policies without a strategic plan in place for the DSS office. There is only a slightly greater number of written procedures and policies when there is a strategic plan in place.

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Table 36. Count of Policies and Procedures by Strategic Plan Presence

Count of # of Written Procedures and Policies in Place	No Strategic Plan	% of Total	Strategic Plan	% of Total
0	4	5.80	3	4.69
1 - 2	6	8.70	4	6.25
3 - 4	25	36.23	14	21.88
5 - 6	26	37.68	31	48.44
7 - 8	7	10.14	9	14.06
9 - 10	1	1.45	3	4.69
Total	69	100.00	64	100.00

The following table demonstrates that the offices with a strategic plan have a greater number of written procedures in policies at public institutions. At private institutions, there are four to seven policies in place in 32 instances when there is no strategic plan in place, and only 25 instances when there is a strategic plan in place.

Table 37. Number of Policies and Procedures by Public and Private

	Public			Private		
# of Written Policies Established by if a Strategic Plan is in Place; % of Total for Public and for Private						
Strategic Plan	0 to 3	4 to 7	8 to 11	0 to 3	4 to 7	8 to 11
Yes	7; 13%	23; 42%	5; 9%	2; 3%	25; 33%	1; 1%
No	8; 14%	12; 42%	0; 0%	12; 16%	32; 42%	4; 5%

The following bar chart displays the number of written procedures and policies by whether or not the office has a strategic plan in place or not. There is only a slightly higher representation of a strategic plan as the number of written policies and procedures increase.

Figure 28. Number of procedures or policies by presence of strategic plan.

The following table lists the number of directors who indicated their offices have a particular written procedure or policy in place separated by if their office has a strategic plan or not. There are three procedures or policies of note. Offices with strategic plans have a greater number of written policies or procedures on students with allergies to specific animals. Offices without strategic plans in place have a greater number of service animals' policies or procedures in place. Offices without strategic plans in place have a greater number of offices with an extended testing policy or procedure in place.

Table 38. Number of Policies and Procedures by Type

Office Strategic Plan in Place	# of Policies per Policy Type									
	Service Animals	Emotional support / therapy / assistance animals in residence halls as an accommodation	Students with allergies to specific animals	Students with phobias to specific animals	Ways to accommodate students whose faiths make it difficult for them to touch specific breeds of animals	Accommodations / Modifications	Flexible attendance	Extended testing	Universal Design for instructors	Clause in Purchasing policy or procedure that software must be accessible
Office strategic plan	47	56	19	9	5	57	38	46	16	20
No office strategic plan	59	59	8	6	0	54	38	57	10	19

Professional Networks

This section addresses the characteristic of professional networks as a part of the structure component in Figure 1.

Of the 153 responses, 112 directors (73%) indicated that they use national and/or regional Association on Higher Education and Disability (AHEAD) as a professional network. This is a large majority who may rely on making changes based upon guidance from AHEAD. Of the respondents who answered the question, "In making changes relative to disability services in your institution which of the following do you use as a resource?" many respondents (80% and higher) use the following: AHEAD (Association for Higher Education and Disability), Office of Civil Rights (OCR) settlement agreements, communication from students, disability services listservs or message boards, communication from faculty and staff, and institution's legal counsel. This is useful in understanding how change is implemented relative to the Punctuated Equilibrium Theory lens.

Table 39. Resources for Change

Number of respondents	% of respondents	Resource
In making changes relative to disability services in your institution which of the following do you use as a resource?		
122	100%	AHEAD (Association for Higher Education and Disability)
113	93%	Office of Civil Rights (OCR) settlement agreements
108	89%	Communication from students
106	87%	Disability services listservs or message boards
103	84%	Communication from faculty and staff
97	80%	Institution's legal counsel
63	52%	Disabilities, Opportunities, Internetworking, and Technology (Do-It Center) at the University of Washington
37	30%	National Center on Disability and Access to Education (NCDAE)
33	27%	Literature reviews conducted by your institution's team members
32	26%	Center for Inclusive Design and Environmental Access

Student Advisory Council/Board

This section addresses the characteristic of student advisory council/board in the structure component of Figure 1. The following table displays whether an institution has a student advisory council separated by public and private institution. A majority of both public (74.51%) and private (83.78%) institutions indicated that they do not use student advisory councils. Public institutions (25.49%) use them slightly more than private (16.22%) institutions.

Table 40. Student Advisory Council Presence by Public and Private

Percent of Respondents Who Receive Guidance from a Student Advisory Council by Public and Private Institutions		
Response	Public (n=51) - Percent of Total	Private (n=74) - Percent of Total	Variance
Yes	25.49	16.22	9.27
No	74.51	83.78	9.27

The following bar chart provides the visual representation of the proceeding table of whether or not an institution has a student advisory council separated by public and private institutions.

Figure 29. Bar chart of student advisory council presence by public and private.

Data Tracking

This section addresses the data tracking characteristic under the structure component of Figure 1.

The respondents were asked about the types of data they track. Data types included: retention rates, graduation rates, GPAs, number of honor placements, number of hours office staff convert accessible materials, frequency of student contact with offices staff, job placement during educational career, job placement after graduation, type of disability of registered SWDD, number of educational or programming opportunities provided by the DSS office, number of contact of office staff with faculty members, number of office staff contacts with staff members, and other types of data tracked. The following table and bar chart show the number of types of data tracked by public institutions and by private institutions. Public institutions track more data types than private institutions.

Table 41. Count of Number of Data Types Tracked

Count of # of Types of Data Tracked	Private	% of Total	Public	% of Total
0	1	1.32	0	0.00
1 - 2	23	30.26	16	29.63
3 - 4	30	39.47	10	18.52
5 - 6	12	15.79	18	33.33
7 - 8	7	9.21	6	11.11
9 -10	3	3.95	3	5.56
11 - 12	0	0.00	1	1.85
Total	76	100.00	54	100.00

The following is a visual representation of the preceding table in the form of a bar chart to show that public institutions generally track a higher number of data types than private institutions.

Figure 30. Count of data types tracked by public and private.

Figure 31 shows the independent variable of number of types of data tracked by private and by public institutions by the dependent variable of the number of registered SWDD in fall 2017. Public institutions show a greater number of registered SWDD and generally more types of data tracked.

Figure 31. Number of types of data tracked by SWDD.

The following table provides the types of data tracked by public and private institutions. Public institutions are more likely to track the number of hours staff members convert accessible materials than private institutions. Overall, public institutions are more likely to track the number of items the office does, while private institutions are more likely to track student-related information. The majority of the directors' track disability type and frequency of student contact with office staff.

Table 42. Data Types Tracked by Public and Private

Percent of Respondents that Track these Data Types by Public and Private Institutions			
Data Tracking Type	Public - Percent of Total	Private - Percent of Total	Variance
Type of disability of students registered with the office	67.86	96.43	28.57
Frequency of student contact with office staff	47.62	60.71	13.09
GPAs	29.76	39.29	9.53
Graduation Rates	28.57	36.90	8.33
Number of hours office staff convert accessible materials	21.43	14.29	7.14
Retention Rates	28.57	33.33	4.76
Number of Honors Placements	3.57	7.14	3.57
Number of contacts with staff members	28.57	25.00	3.57
Number of educational or programming opportunities provided by your office	30.95	33.33	2.38
Job placement during educational career	4.76	3.57	1.19
Job placement after graduation	7.14	8.33	1.19
Number of contacts with faculty members	17.86	17.86	-

Figure 32 is a bar chart to serve as a visual representation of the preceding table. It includes the percent of respondents by public and private institutions based upon the data they track.

Figure 32. Bar chart of data types tracked by public and private.

Constituents Served

This section addresses the characteristic of constituents served under the structure component in Figure 1.

As indicated in the following table, there are 138 directors who answered the question regarding the types of roles served by their offices. Although 27 percent serve student employees, only 17 percent also serve employees. For those offices that serve employees, there is a greater percentage of eight or more program types offered (27.27%) than for those offices that only serve students and volunteers (6.10%). These data indicate that offices serving a broader constituency have the resources to provide a larger variety of programs.

Table 43. Institution Affiliates Served

		Categories of institution affiliates served by the office
138	100%	Students
37	27%	Student employees
24	17%	Staff members
23	17%	Faculty
22	16%	community members
17	12%	graduate students with appointments
11	8%	Volunteers

Table 44. Constituents Served

Constituents Served by DSS	# of Instances with Program Types of 8 and Above	Total # of Program Types	% of Total
DSS Serves Employees & SWDD	6	22	27.27
DSS Serves Volunteers & SWDD	5	82	6.10

The forthcoming table includes groups served by the DSS office separated by public and private institutions. There were 135 responses that answered the question regarding affiliates served and could be identified as a public or private institution. The table is sorted by variance between public and private institutions. More public institutions (22.81%) serve community members than private institutions (10.13%). More public institutions (14.04%) serve volunteers than private institutions (3.80%). With the exception of faculty, the public sector serves slightly more of each group. serve.

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Table 45. Groups Served by Public and Private

Percent of Respondents Who Serve Each Group by Public and Private Institutions			
Group Served	Public - Percent of Total	Private - Percent of Total	Variance
Community Members	22.81	10.13	12.68
Volunteers	14.04	3.80	10.24
Graduate Students with Employment Appointments	15.79	8.86	6.93
Staff Members	19.30	15.19	4.10
Faculty	17.54	15.19	2.35
Students	98.25	100.00	1.75
Student Employees	26.32	26.58	0.26

Figure 33 portrays a visual representation in the form of a bar chart of the preceding table of groups served by the DSS offices as a percentage of the total responses separated by public and private. There is little variance between private and public with the exception of community members and volunteers.

Figure 33. Bar chart of groups served by public and private.

Figure 34 provides the independent variable of number of groups served by the DSS office by the dependent variable of number of registered SWDD in fall 2017. Offices with the greatest number of registered SWDD generally only serve one group; whereas offices with smaller populations of registered SWDD may serve a greater number of groups.

Figure 34. Groups served by number of SWDD.

Office Location

This section addresses the office location characteristic in the office structure component of Figure 1.

When asked by the directors, "In your view is the disability office on campus easy for students with disabilities to find?" the majority indicated that their office is easy to find (84%, n=113); whereas only 16% (n=21) believe their offices are not easy to find.

Communication Methods

This section addresses the communication methods characteristic in the office structure component in Figure 1.

There are 135 directors who responded to the question regarding the number of communication types with SWDD. The following table provides the information. Forty-two percent of the offices communicate with SWDD by only one method (n=57); whereas twenty-nine percent (n=39) communicate by two methods; and twenty-five percent (n=34) use three methods; and only four percent (n=5) use four or more methods of communication.

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Table 46. Number of Communication Methods

		Number of communication methods from the office to SWDD
42%	57	indicated 1 method of communication
29%	39	indicated 2 methods of communication
25%	34	indicated 3 methods of communication
4%	5	indicated 4 or more methods of communication

Table 47 displays the types of communication methods. Many (46%) use mass emails, while a smaller number also use an electronic system (17%) for portal announcements specifically for SWDD.

Table 47. Communication Types

Communication Type	# of directors who use this method	% of Total
Mass emails directed to SWDD	114	46%
Electronic system portal announcements for students registered with your office	43	17%
Other types	26	10%
Electronic newsletter	24	10%
Facebook	22	9%
Instagram	10	4%
Twitter	6	2%
Printed newsletter	4	2%

The following table provides the percentage of communication methods separated by public and private institutions. Although 135 directors answered the survey question regarding commination methods, only 133 had the sector of institution identified to view if the institution was public or private. More public than private institutions use electronic system portal announcements (39.29% public; 27.27% private), electronic newsletters (25.00% public; 12.99%

private), and Facebook (21.43% public; 10.39% private) to communicate with registered SWDD.

More private institutions communicate via Instagram.

Table 48. Communication Methods by Public and Private

Percent of Respondents that Use these Communication Methods with Registered SWDD by Public and Private Institutions			
Communication Type	Public (n=56) - Percent of Total	Private (n=77) - Percent of Total	Variance
Electronic system portal announcements for students registered with your office	39.29	27.27	12.02
Electronic Newsletter	25.00	12.99	12.01
Facebook	21.43	10.39	11.04
Instagram	5.36	10.39	5.03
Other	17.86	22.08	4.22
Printed Newsletter	5.36	2.60	2.76
Mass emails directed to students registered with your office	85.71	87.01	1.30
Twitter	3.57	2.60	0.97

Figure 35 is a bar chart for a visual representation of the communication types offered by public and private institutions.

Percent of Respondents that Use these Communication Methods with Registered SWDD by Public and Private Institutions

Figure 35. Bar chart of communication methods by private and public.

Figure 36 shows the independent variable of number of types of communication methods by the dependent variable of number of registered SWDD in fall 2017. The figure shows that the offices with higher populations of registered SWDD, generally use three methods of communication.

Figure 36. Communication types by number of SWDD.

Internal and External Partnerships

       This section explains the data analysis of the internal and external partnership component and the characteristics listed therein in Figure 1.

       There are 134 respondents to the question: Does your office have partnerships or collaborations with any of the following? Respondents could select as many partnerships as they chose. The majority of partnerships (59%; n=79) were in the range of nine to 16 partnerships. Forty-three (32%) respondents selected between 13 and 16 partners; thirty-six (27%) respondents selected between nine and 12. The remainder are listed in the following table.

Table 49. Number of Partnerships

Does your office have partnerships or collaborations with any of the following?		
Number of respondents (n=134)	% of respondents	# of partners
11	8%	0,1,2,4
15	11%	5,6,7,8
36	27%	9,10,11,12
43	32%	13,14,15,16
21	16%	17,18,19,20
8	6%	20+

Figure 37 is a scatterplot demonstrates the independent variable of number of partnerships and collaborations against the dependent variable of the number of registered SWDD in fall 2017. Offices with higher populations of SWDD generally have more partnerships and collaborations.

Figure 37. Number of partnerships by number of SWDD.

The following table provides the partnership type as a percentage of the total separated by public and private institutions. The table is sorted by the variance between public and private institutions. Partnerships with TRIO programs occur more frequently in public institutions (60.00%) than private institutions (18.03%). This is likely as TRIO programs are federally funded grants and are more likely offered within public institutions. The original three programs, thus, the name TRIO included Upward Bound, Talent Search, and Student Support Service. This could be a similar situation for Military and Veterans Affairs. A partnership exists in public institutions (65.00%) more frequently than in private institutions (42.03%). It is possible that there are fewer offices of this nature at private institutions than at public institutions. Partnerships with Admissions occur in public institutions (100.00%) more frequently than in private institutions (70.59%). This is a useful partnership so that students considering admission to the institution can learn about self-disclosing to the DSS office to obtain appropriate accommodations and support. Partnerships with the Health Center occur more frequently within private institutions (71.62%) than in public institutions (57.58%).

Table 50. Partnerships by Public and Private

Percent of Respondents that have the Office Type and Partnership by Public and Private Institutions			
Partnership Type	Public	Private	Variance
TRIO programs	60.00	18.03	41.97
Admissions	100.00	70.59	29.41
Military and Veteran Affairs	65.00	42.03	22.97
Health Center	57.58	71.62	14.04
Landscape Services	28.07	15.49	12.58
Athletics Center	44.44	32.43	12.01
Legal Counsel	65.74	54.67	11.07
Libraries	66.67	58.33	8.34
Grants or research office	21.92	28.77	6.85
Residence Life	72.13	78.31	6.18
Academic Support Center	73.77	78.05	4.28
Athletics Department	58.62	55.13	3.49
Development office	35.00	32.05	2.95
Academic advisors	78.13	76.19	1.94
Office of Transfer Students	40.74	39.13	1.61
Counseling Services	80.95	82.50	1.55
Faculty Development	58.06	56.63	1.43
Dining Services	63.93	65.00	1.07
Information Technology	70.00	70.93	0.93
Facilities Management	63.46	63.53	0.07
Graduate College	38.78	38.81	0.03

Figure 38 provides a visual representation in the form of a bar chart of the preceding table.

Figure 38. Bar chart of partnerships by public and private.

From the qualitative data analysis using survey respondent comments, theme 6 emerged. *Theme 6 – Meet needs with partnerships and collaborations* emerged under this category. Multiple respondents indicated that they work toward meeting programming and service needs of all constituents through partnerships and collaborations. The following respondent comment summarizes that scarce resources is a motivator for partnerships. This respondent summarizes it well, *"Other offices on campus offer some of these things. Being understaffed and thinking that all are responsible for inclusiveness, I welcome these campus partners' efforts."*

Programming Support

This section addresses the programming support component and the characteristics listed therein in Figure 1.

Training

This section addresses the training characteristic that is under the programming support component listed in Figure 1.

Nine directors indicated that their offices do not offer educational or professional development opportunities related to SWDD, although 127 directors provided information on the numbers and types of training offered by their offices. The majority of offices offer between two and three training types (52%; n=67). Table # provides a description of an educational opportunity type and the number of directors who indicate that it is offered at their institutions. Many (n=110) offer in-person training for faculty or staff members on disability topics and slightly fewer (n=100) offer print or electronic materials to assist faculty or staff members in working with students with disabilities.

Table 51. Educational Opportunity Type

Educational Opportunity Type	# of directors who use this method	% of Total
In-person training for faculty or staff members on disability topics	110	25%
Print or electronic materials to assist faculty or staff members in working with students with disabilities	100	23%
In-person training for registered students on disability topics	76	18%
In-person training specifically for academic advisors	59	14%
Online training for faculty or staff members on disability topics	34	8%
Online training for students on disability topics	17	4%
Online training specifically for academic advisors	14	3%
Other	13	3%
None	10	2%

Directors indicated the number of types of training offered. The majority (n=67; 52%) use three or four different type of trainings.

Table 52. Number of Types of Training Opportunities

		Number of types of training opportunities
9%	12	indicated 1 training type
14%	18	indicated 2 training types
32%	41	indicated 3 training types
20%	26	indicated 4 training types
14%	18	indicated 5 training types
6%	7	indicated 6 training types
4%	5	indicated 7 or more training types

The following table provides the percentage of respondents who use each educational opportunity type separated by public and private institutions and sorted by the variance column. There is very little difference in the types of educational opportunities available between public

and private institutions. Public institutions (82.14%) offer print or electronic materials to assist faculty or staff members in working with students with disabilities more frequently than private institutions (70.51%).

Table 53. Educational Opportunities by Public and Private

Percent of Respondents that Use these Educational Opportunities by Public and Private Institutions			
Educational Opportunity Type	Public (n=56) - Percent of Total	Private (n=78) - Percent of Total	Variance
Print or electronic materials to assist faculty or staff members in working with students with disabilities	82.14	70.51	11.63
In-person training specifically for academic advisors	50.00	41.03	8.97
Online training for faculty or staff members on disability topics	30.36	21.79	8.57
Online training specifically for academic advisors	12.50	8.97	3.53
None	7.14	5.13	2.01
In-person training for registered students on disability topics	57.14	58.97	1.83
Online training for students on disability topics	14.29	12.82	1.47
In-person training for faculty or staff members on disability topics	83.93	83.33	0.60

The following bar chart provides a visual representation of the preceding table of educational opportunity types offered as a percentage of the total number of respondents separated by public and private institutions. It shows relatively small variation between the two institution types.

Figure 39. Bar chart of educational opportunities by public and private.

Programs Offered

This section addresses the various programmatic characteristics under the programming support component listed in Figure 1.

There are 134 respondents who answered questions regarding the number of program types they offer to benefit SWDD. The majority (57%; n=76) offer between one and four program types. The following table indicates the percentage of respondents, the number of respondents, and the number of program types the office offers in support of SWDD.

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Table 54. Number of Program Types

	Number of types of program opportunities	
8%	11	indicated 0 program types
16%	22	indicated 1 program type
12%	16	indicated 2 program types
13%	17	indicated 3 program types
16%	21	indicated 4 program types
10%	13	indicated 5 program types
5%	7	indicated 6 program types
6%	8	indicated 7 program types
1%	2	indicated 8 program types
5%	7	indicated 9 program types
7%	10	indicated 10 and above program types

The following table lists some program types and the number of directors who indicated that the program type is offered at their institutions. The two most popular program types are tutors who are trained to work with students with disabilities (n=60) and opportunities for students with disabilities to study abroad (n=53).

Table 55. Number of Program Types by Type

Program Types	# of directors who use this Program Type	% of Total
Tutors trained to work with students with disabilities	60	11%
Opportunities for students with disabilities to study abroad	53	10%
Office staff visit local high schools to assist students transitioning from high school to higher education	44	8%
RSOs	43	8%
On-campus transportation for students with temporary disabilities	40	8%
Campus climate study including questions related to students with disabilities at least every five years	38	7%
Faculty and/or staff mentors for students with disabilities	37	7%
Educational programs on disability identity and/or disability pride	35	7%
Programs for students on the autistic spectrum	31	6%
On-site therapy animals available to students during specified hours	28	5%
Summer transition programs for incoming students with disabilities	21	4%
Office staff visit local community colleges to assist students transitioning to your institution	21	4%
Awards for professors or staff members who are exceptional in creating a welcoming and inclusive institutional environment	19	4%
Awards for student leaders who are exceptional in creating a welcoming and inclusive institutional environment	17	3%
Fee-for-service programs offered in addition to other DSS office programming	15	3%
Other	14	3%
Faculty mentors for faculty members and teaching assistants who serve students with disabilities	9	2%
Sports clubs for students with disabilities	7	1%

The following table provides the list of program types by percentage of the total responses separated by public and private institutions. There were 119 responses that were identifiable by public and private institution. The table is sorted by the variance column. Significantly more public (58.00%) than private (23.19%) institutions have DSS office staff visit local high schools to assist students in transitioning from high school to higher education. Significantly more public (32.00%) than private (5.8%) institutions have office staff visit local community colleges to assist students transitioning to their institutions. Both of these demonstrate that offices at public institutions are generally more engaged in recruiting SWD and working toward a smooth transition. Public institutions (30.00%) recognize professors and staff members with awards when they are exceptional in creating a welcoming and inclusive institution environment at a greater rate than private institutions (7.25%). Recognition of inclusion can encourage further efforts in this area. There is at least one registered student organization for SWDD at a higher rate within public institutions (48.00%) than within private institutions (26.09%).

Table 56. Program Type by Public and Private

Percent of Respondents that Use these Program Types by Public and Private Institutions			
Program Type	**Public (n=50) - Percent of Total**	**Private (n=69) - Percent of Total**	**Variance**
Office staff visit local high schools to assist students transitioning from high school to higher education	58.00	23.19	34.81
Office staff visit local community colleges to assist students transitioning to your institution	32.00	5.80	26.20
Awards for professors or staff members who are exceptional in creating a welcoming and inclusive institutional environment	30.00	7.25	22.75
RSO	48.00	26.09	21.91
Programs for students on the autistic spectrum	36.00	20.29	15.71
Sports clubs for students with disabilities	14.00	1.45	12.55
Summer transition programs for incoming students with disabilities	24.00	13.04	10.96
Educational programs on disability identity and/or disability pride	36.00	26.09	9.91
Awards for student leaders who are exceptional in creating a welcoming and inclusive institutional environment	20.00	10.14	9.86
Tutors trained to work with students with disabilities	44.00	53.62	9.62
On-site therapy animals available to students during specified hours	30.00	21.74	8.26
Faculty and/or staff mentors for students with disabilities	26.00	33.33	7.33
Fee-for-service programs offered in addition to other DSS office programming	8.00	14.49	6.49

Table 56—Continued

Program Type	Public (n=50) - Percent of Total	Private (n=69) - Percent of Total	Variance
Other	12.00	5.80	6.20
On-campus transportation for students with temporary disabilities	38.00	31.88	6.12
Opportunities for students with disabilities to study abroad	42.00	47.83	5.83
Faculty mentors for faculty members and teaching assistants who serve students with disabilities	10.00	5.80	4.20
Campus climate study including questions related to students with disabilities at least every five years	34.00	33.33	0.67

The following bar chart provides a visual representation of the preceding table to depict programs offered as a percentage of total by public and private institutions.

Figure 40. Bar chart by program types by public and private.

Punctuated Equilibrium Theory

This section addresses the Punctuated Equilibrium Theory (PET) characteristic that is within the structure component in Figure 1. Punctuated Equilibrium Theory developed by Baumgartner and Jones (1993) explains the process of incrementalism and punctuated events in which many directors must operate when implementing changes. Political processes are generally explained with stability and incrementalism. However, there are times when a crisis

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occurs resulting in dramatic change in policy. This theory covers both the times of stability and

the spikes of change (Sabatier, 2009). Robinson (2004) asserts that "a decision maker

underresponds (sic) to changes for a long period of time. Once pressure for change becomes

over-whelming, the decision maker adopts a radical, dramatic or non-incremental, change. This

is called 'punctuation'" (p. 25).

There are 131 director survey responses to the following question: Are there major

changes that you believe are necessary on your campus related to students with disabilities but

are not initiated because of barriers your office or your institution? Of the 131 responses, 60%

(n=79) answered yes; whereas 40% (n=52) answered no. There was very little difference

between public and private institutions.

Percent of Respondents Who Indicated that there are Barriers to Major Changes by Public and Private Institutions		
Barriers?	Public (n=54) - Percent of Total	Private (n=72) - Percent of Total
Yes	63%	61%
No	37%	39%

Figure 41. Major change by public and private.

The respondents indicated the following contributing barriers as described in the table

below: financial constraints (92%, n=73), culture of the institution (90%, n=71), facilities and

infrastructure (81%, n=64), senior leadership or cabinet members (78%, n=62), information

technology within the institution (53%, n=42), information technology staff members (30%, n=24), and vendors (30%, n=24). The respondents who indicated barriers to change selected a large number of potential barriers. Through the lens of PET, directors can make small, incremental changes, which generally impact a fewer number of constituent types because of the significant number of barriers to enacting major changes, which could impact the entire institution and sometimes the external community. Directors oftentimes must wait for a window of opportunity to open for major, fundamental change to occur. This generally becomes an opportunity when there is a punctuated event causing the window of opportunity. To overcome barriers indicated by the directors such as institution culture or senior leadership/cabinet members, a punctuated event may be necessary.

Table 57. Barriers to Change by Public and Private

Indicate the likelihood of the following to serve as barriers to major changes within the disability office.		
Number of respondents (n=79)	% of respondents	Barrier
73	92%	Financial constraints
71	90%	Culture of the institution
64	81%	Facilities and infrastructure
62	78%	Senior leadership or cabinet members
42	53%	Information technology within the institution
24	30%	Information technology staff members
24	30%	Vendors

There are 116 responses to the following question: To what extent are the following a source of change within the disability office? The respondent could elect to select multiple sources of change. The respondents indicated the following as sources of change in the table below: Initiated by student concern (86%, n=100), DSS director (78%, n=90), AHEAD or other

agency information distribution (76%, n=88), change in legislation (74%, n=86), faculty

members (72%, n=84), Office of Civil Rights (OCR) settlement agreement or litigation at

ANOTHER institution (72%, n=83), Senior leadership or cabinet members (49%, n=57), Office

of Civil Rights (OCR) settlement agreement or litigation at YOUR institution (48%, n=56), and

climate study (45%, n=52).

Table 58. Sources of Change

To what extent are the following a source of change within the disability office?		
Number of respondents (n=116)	% of respondents	Sources for change
100	86%	Initiated by student concern
90	78%	DSS Director
88	76%	AHEAD or other agency information distribution
86	74%	Change in legislation
84	72%	Faculty members
83	72%	Office of Civil Rights (OCR) settlement agreement or litigation at ANOTHER institution
57	49%	Senior leadership or cabinet members
56	48%	Office of Civil Rights (OCR) settlement agreement or litigation at YOUR institution
52	45%	Climate study

There are 120 responses to the following question: How frequently are major changes

implemented with your office or campus relative to students with disabilities? The respondents

indicated the following frequency of major changes in the Table 59: At least once between one

and three years (50%, n=60), At least once between four and 11 months (22%, n=26), At least

once between four and seven years (12%, n=14), other (11%, n=13), and at least once every

three months (6%, n=7).

Table 59. Frequency of Change

How frequently are major changes implemented with your office or campus relative to students with disabilities?		
Number of respondents (n=120)	% of respondents	Timeframe
60	50%	At least once between one and three years
26	22%	At least once between four and 11 months
14	12%	At least once between four and seven years
13	11%	Other
7	6%	At least once every three months

Qualitative date from open-ended survey responses provided a theme in regard to PET. *Theme 7 – PET institutional policy change challenges* emerged from respondent comments in that parts of punctuated equilibrium theory as a framework are addressed. The respondents indicated in the survey comments that there are some barriers to creating institutional change; whereas changes within their offices are primarily accomplished. In regard to major changes, one respondent explains, "My office really only changes with major legal changes," moreover, another respondent writes, "minor changes are made in order to keep up to date with best practices." Both of these comments could be explained using PET. There are a small number of respondents who are not faced with these challenges as indicated by this comment, *"Policy issues/updates are address almost immediately."*

Generally, in the cases where institutional change is necessary, respondents may need to wait for a window of opportunity. A specific example is embodied in this respondent comment, *"This is the first year where I have not dispersed the necessary funds in the sixteen years I have been the disability service provider. Change of presidential leadership occurred in fall of 2016."*

The punctuated event was a change in presidential leadership. In this case, the punctuated event did not offer a positive outcome for change. It adversely affected the DSS office operations.

Here are respondent comments that summarize a generalized concern from multiple respondents. *"There's just no money, or never enough, but it's also not a major priority of anyone at the top"* and *"Very seldom are there any major changes implemented with this office. I have expressed concerns about not having any support for the office."* Another respondent comment that summarizes a concern is *"Finances (lack of them) is used frequently. Some faculty simply need to update their thinking about Universal Design."*

Student Identity Development Theory

This section addresses the Student Identity Development Theory characteristic under the programming support component in Figure 1.

Chickering and Reisser (1993) provided seven vectors that contribute to identity development: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal, relationships, establishing identity, developing purpose, and developing integrity. Throughout this study, there are multiple areas that demonstrate directors viewing students though this holistic lens. This is an essential lens are there are various DSS office models. Some of those models may consider the entire student experience at the institution and offering programs that allow the students to explore and develop into mature adults who have pride in who they are without seeing their disability as a burden. Other DSS office models may only focus on assuring academic accommodations are supplied for the students.

One area that takes student identity into consideration is the name of the DSS office. Language can be an important factor in a student's identity and advertising with an office name that feels empowering could encourage attendance at the institution and use of the office, conversely, disempowering language could cause some students to dismiss the institution or avoid using the services the office has to offer, which could decrease their potential for graduation if services are necessary. The overwhelming majority in both the population and the survey respondents include the terms "service," and "disability" in their office names. Terms such as "support," "disability support," "disabled," and "adaptive" may feel disempowering to a student's identity and are used less frequently.

Tutors to assist with ongoing coursework are offered more frequently at private institutions (63.16%) than public institutions (38.18%). Counseling about vocational rehabilitation services is offered more frequently at public institutions (43.64%) than private institutions (21.05%). Career or placement services specifically designated for students with disabilities is offered more frequently at public institutions (40.00%) than private institutions (19.74%). Tutoring, vocational rehabilitation counseling, and career counseling designed specifically for SWDD are significant in that they consider students holistically as viewed through the lens of student identity development theory. These offerings extend beyond what is mandated by law for providing equal access to SWDD.

Student Identity Development Theory was frequently used as a framework when considering documentation age and type as a holistic view of each student. This was identified in *Theme 5 – Subjective documentation age and type*. The primary comments regarding case-by-case basis and student input are under *Subjective documentation age and type – subtheme varies.* Over half (55%) of directors indicated that documentation age was not generally a factor.

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The leadership category in the qualitative data analysis from survey respondent comments assists in explaining *RQ 4: To what extent is identity theory reflected in the DSS Office characteristics and programs?*

Student Identity Development Theory was frequently used as a framework when considering documentation age and type as a holistic view of each student was supported by a majority of respondents. This was identified in *Theme 5 – Subjective documentation age and type*. The primary comments regarding case-by-case basis and student input are under *Subjective documentation age and type – subtheme varies.*

Student Identity Development Theory as an overall framework was not consistently implemented in that offering services and programming could be a barrier primarily due to resources. This is demonstrated by respondent comments under *Theme 1 – Lack of operational resources.* Respondents indicate that there are generally funds available for accommodations, and that is all. There are limited financial resources available for other needs so addressing students in a holistic manner could be a challenge for directors. Many work with partners or collaborate with other offices to assure student needs are met.

Quantitative Data Analysis

Data from the surveys were measured using a correlation coefficient between variables to determine the strength of the correlation between the DSS characteristics and graduation rates. As previously indicated, there were only 33 respondents who provided sufficient data to analyze by this method. The bivariate Pearson correlation test was used within SPSS to determine that there is a significant correlation based upon the correlation matrix between three characteristics and the four-year graduation rate for students with disabilities. This is in response to research

question one. *RQ 1: What are the patterns of DSS office structures and characteristics that correlate to higher graduation rates?*

The p-values for increase in students, disability services major, and student advisory council are all less than .05 indicating that there is a statistically significant correlation between these independent variables and the dependent variable of four-year graduation rate for students registered with disability services for students.

Increase in number of students registered with disability services for students is negatively correlated to four-year graduation rates for SWDD. This is consistent with the literature relative to an increase in SWDD requires increased staffing. Edwards (2014) conducted interviews of six DSS leaders and found that with the increase in the students registered with the offices, increased staffing is necessary as they do not have the time required to spend with each student.

Institutions with a disability studies major is negatively correlated to four-year graduation rates for SWDD. This is a dearth in the literature regarding the impact of a disability studies major on graduation rates for SWDD. However, one would expect a positive correlation because "Disability studies has the potential to make people see that the world has been designed to exclude many people with disabilities from the wheel chair user to the person with cognitive or affective disorders" (Davis, 2005, p. 1).

Institutions that identified as having a student advisory council to advise the disability services offices are positively correlated to four-year graduation rates for SWDD. This is consistent with the literature in that DSS offices that create a student advisory board (Garrison-Wade & Lehman, 2009) are benefitting the SWDD as well as the institution. Not only can the student advisory board provide information to directors, students can learn to enhance their self-

advocacy skills in this environment, as well as build relationships with other students with disabilities on campus (Hope, 2016a).

Together, the R^2 value indicates that these combined variables account for 23% of the variability in graduation rates for students who are registered with disability services for students. If all of these independent variables are present, the DSS graduation rates can be predicted with 23% confidence.

Since only 33 respondents provided data on the DSS graduation rate, these data are not generalizable, and it is not a sufficient number to consider the DSS office characteristics in a statistical analysis other than in this limited way. In the survey, 37% (n=56) of the 153 respondents indicated that they track DSS graduation rates for SWDD.

Institutions with a disability major is negatively correlated to graduation rates. This was not confirmed in the literature and was unexpected. A larger response regarding SWDD four-year graduation rate would be useful to determine the accuracy of this result.

Table 60. Pearson's Correlation

		FourYearGradRateDSS	IncreaseInStudents	DSSEdMajor	StudentAdvisory
FourYearGradRateDSS	Pearson Correlation	1			
Sector	Pearson Correlation	.362*			
	Sig. (2-tailed)	0.042			
	N	32			
IncreaseInStudents	Pearson Correlation	-.387*	1		
	Sig. (2-tailed)	0.026			
	N	33	33		
DSSEdMajor	Pearson Correlation	.396*	-0.115	1	
	Sig. (2-tailed)	0.023	0.524		
	N	33	33	33	
StudentAdvisory	Pearson Correlation	.374*	-0.345	.403*	1
	Sig. (2-tailed)	0.038	0.057	0.024	
	N	31	31	31	31

*. Correlation is significant at the 0.05 level (2-tailed).

CHAPTER V

DISCUSSION

The chapter includes a discussion of the results and findings. It is organized into the

following sections: (1) Summary of key findings (2) Contribution to the field (3) Limitations and

delimitations (4) Future study and (5) Conclusion.

Summary of Key Findings

RQ 1: What are the patterns of DSS office structures and characteristics that correlate to higher

graduation rates?

Overall, 95% of the respondents indicated an increase in registered SWDD in the past

five years, with the average increase being 61.4%. Along with this increase, a majority of

respondents (61%) indicating that staffing levels had not increased to compensate for the

increase in registered SWDD. However, smaller offices are still adequately staffed. Since smaller

offices are adequately staffed despite the increase in the number of registered SWDD, it may be

a consideration for potential students seeking higher education. Additionally, these offices tend

to offer fewer services.

The quantitative data analysis results indicated that an increase in number of students

registered with disability services for students is negatively correlated to four-year graduation

rates for SWDD. This coincides with the descriptive data in that of the 153 respondents, 95

percent (n=145) indicated that the number of SWDD registered with their offices increase;

whereas 61 percent of the respondents (n=89) indicated that there was not an increase in staffing.

This is also supported by the qualitative findings, specifically in *Theme 1 – Lack of operational*

resources. As the number of students registered with the office increase, financial resources and staffing remain the same (theme 1). This result and finding confirms what was reviewed in the literature Edwards (2014). Edwards (2014) conducted interviews of six DSS leaders and found that with the increase in the students registered with the offices, increased staffing is necessary as they do not have the time required to spend with each student. In this study, even when there was an increase in staffing, it oftentimes was insufficient to meet the needs or did not come in a timely manner. Thus, directors supplement staffing with student employees.

Institutions with a disability studies major is negatively correlated to four-year graduation rates for SWDD. The hypothesis was that institutions with a disability studies major would be positively correlated to four-year graduation rates for SWDD because there would be a great institutional understanding of people with disabilities, as well as a need for internships and practicums for students in the field. In this case, the null hypothesis was rejected as there is a correlation between a disability studies major and the graduation rate for SWDD. However, it is a negative relationship, which was unexpected. This result was not found in the literature. With the small number of responses provided by the directors to the dependent variable question regarding four-year graduation rate for SWDD, further study is necessary.

Institutions that identified as having a student advisory council to advise the disability services offices are positively correlated to four-year graduation rates for SWDD. This coincides with the literature review from Garrison-Wade & Lehman (2009) and Hope (2016a). There are DSS offices that create a student advisory board (Garrison-Wade & Lehman, 2009). Not only can the student advisory board provide information to directors, students can learn to enhance their self-advocacy skills in this environment, as well as build relationships with other students with disabilities on campus. San Diego State University has a student advisory board whose

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intent is to: "review and make recommendations regarding policies, programs and procedures relating to students with disabilities; present concerns of students with disabilities on campus; and increase disability awareness in the campus community" (Hope, 2016a, p. 2). This is an area of consideration for DSS directors both in public and private institutions. There is limited use of student advisory councils in both institution types, and this is an independent variable that is correlated to higher graduation rates for SWDD. Implementation of a greater number of student advisory councils is needed.

The descriptive and inferential data demonstrated differences between public in private institutions in multiple areas and could be a demographic institutional characteristic for consideration for potential students with disabilities seeking a higher education. Those findings are highlighted in this chapter. There are more registered SWDD at public institutions than private institutions. A higher percentage of public institutions have strategic plans for their offices than private institutions. Public institutions with larger populations of registered SWDD are more likely to have strategic plans than private institutions. A higher number of public institutions than private institutions have testing centers.

The offices that indicated they have strategic plans also indicated a larger number of written policies and procedures located within their offices. Most of the offices have written policies or procedures on ESAs in Residence Halls, service animals on campus, extended testing time, and flexible attendance. Considerably fewer offices have policies or procedures on purchasing accessible software or universal design for instructors. These are two areas where institutions may wish to consider implementation of a written policy or procedure to assure the education of the campus community on disability in these areas. Other areas where written policies and procedures were not generally in place included students with allergies to specific

animals, phobias to specific animals, and ways to accommodate students whose faiths make it difficult to touch specific species of animals. These are likely encountered less frequently, and written policies or procedures may not be necessary at this time.

The largest number of registered SWDD in the fall of 2017 are enrolled at institutions located in cities and suburbs as opposed to towns and rural institutions. If potential students are seeking a larger population of SWDD in hopes of connecting with a community, this may be a consideration.

Respondents indicated that there are funds for accommodations. If there is a need for accommodations and there is no more budgetary support, the funds are generally found. However, there are not funds for a great deal more than accommodations at most institutions.

A small percentage of offices (17%) serve more groups than SWDD. Of this percentage, smaller offices are more likely to serve more than one group. This coincides with the indication that smaller offices are adequately staffed because they have time to support multiple constituencies with the current population size.

Of the respondents who completed the survey on behalf of public institutions (n=63), 65 percent (n=41) indicated that they offer priority registration; whereas respondents who completed the survey on behalf of private institutions (n=86), 50 percent (n=43) indicated they offer priority registration. This may be meaningful information for some SWDD as with priority registration, it is more likely SWDD can obtain a class schedule that corresponds to their needs. For example, SWDD who have mobility challenges may need to schedule classes with more time to get from one physical location of a class to the next class. Without priority registration, scheduling a class with adequate transition time could be problematic if that particular course is full when the SWDD attempts to register. This pattern of priority registration for SWDD is

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supported in the literature (Adams and Proctor, 2010; Lancaster, Mellard, and Hoffman, 2001).

In the Lancaster, Mellard, Hoffman (2001) study, priority registration and registration guidance

was available at most institutions with the SWDDs feeling generally positive about the process.

As indicated by the descriptive data, more respondents who completed the survey on

behalf of public institutions (73%) indicated that they offer sign language interpreters than those

who completed the survey on behalf of private institutions (58%). This could be a consideration

for SWDD who require this accommodation. This finding was not reviewed in the literature and

could be an area for future study to learn if public institutions provide enhanced accommodations

over private institutions.

Overall, public institutions track more data types for their offices than public institutions.

For example, public institutions are more likely to track the number of hours staff members

convert accessible materials than private institutions. Overall, a majority of directors' track

disability type and frequency of student contact with staff members. Only 39% of directors

indicated that they track GPAs and 37% indicated that they track graduation rates. Being these

are two statistics that are useful in determining if the office is being successful on behalf of

SWDD, it is an area for consideration for directors.

There were 121 directors who responded to the question regarding the currency of

documentation. Just over half (55%) indicated that documentation age is not generally a

restriction (n=66), 25 percent (n=30) indicating that documentation must not be more than five

years old, and 21% (n=25) who indicated that the documentation must not be more than three

years old. Theme 5 and its subthemes support that documentation age and type are subjective and

vary by institution (*Theme 5 – Subjective documentation age and type; subtheme disability type,*

subtheme age based upon disability, subtheme varies, and subtheme static). This is also

supported by the literature Garrison-Wade and Lehman (2009) and Raue and Lewis (2011). This could be a method for controlling the population of SWDD as when documentation type and age are restricted, the SWDD must take the time and financial resources to obtain what is required to register, or the student may choose not to obtain what is required and forego accommodations. The age of documentation is also affected by the type of disability the student identifies with as disabilities with greater variation over time tend to have shorter time limits for documentation.

An overwhelming majority (84%) indicated that their offices are easy for SWDD to locate. This reduces a barrier for students when they are considering registration.

An interesting finding is that DSS offices with a reporting structure to academic affairs as opposed to student affairs received an increase in staffing more frequently.

RQ 2: What services are offered to registered students, staff members, and faculty members that correlate to higher graduation rates?

A finding in the descriptive survey data was that a majority of partnerships (59%; n=79) were in the range of nine to 16 partnerships. This is an option for institutions that are large enough to accommodate such partnerships. Director may seek low- to no-cost solutions or additional revenue sources to support SWDD making small, incremental changes when major changes at the institutional level are not available to them. This was evident in the comments from the directors and the finding is supported in the literature (Adams & Proctor, 2010; Edwards, 2014). Additionally, the data demonstrated that offices with higher populations of registered SWDD have more partnerships. This shows that directors seek creative solutions to meet the needs of their students. The results could also be due to the fact that there is greater specialization and, therefore, more opportunities in larger institutions than smaller institutions.

Only 25% of offices offer in-person training for faculty staff on disability topics. Only 14% offer in-person training for academic advisors. Although, 52% offer 3-4 types of trainings. According to these data provided by the directors, this coincides with the finding that there are funds for accommodations, but funds are limited for other types of activities. This also aligns with the need for extensive partnerships and collaborations with other offices since many directors (although less than half) are unable to offer a large amount of training for their campuses. Although offices overwhelmingly offer print and electronic educational resources, less than half offer online or in-person training opportunities. This is an area for consideration for directors if the resources can be obtained.

Public institutions more frequently visit high school and community college staff members to outreach and work toward a smooth transition than directors working in private institutions. The number of registered SWDD is smaller at private institutions than in public institutions. It is possible that smaller private entities do not have sufficient staffing to visit high schools and community colleges.

RQ 3: What mechanisms are used for publicizing the DSS office and services that correlate to higher graduation rates?

In consideration of institution characteristics that publicize the DSS office on their websites, the following types of institutions included a DSS office presence more frequently than other types of institutions: Land Grant Institutions (89%); public (88%) institutions; institutions that have a highest level of offering of doctoral degrees and include research (77%); institutions with a Carnegie Classification Size and Setting of four-year residential and non-residential, medium and large institutions (90%); and institutions located within a town (80%). Additionally, respondents indicated that marketing materials are not frequently representative of SWD. These

points may be meaningful to SWDD when seeking a higher education institution that notifies the public about the DSS office availability. Institutions that do not publicize a DSS office or are not representative of SWD in their marketing materials may not be perceived as an institution that is inclusive of SWDD.

There are 110 respondents who answered the survey question: How often does your institution's marketing materials includes a diverse representation of students with disabilities? The respondents indicated sometimes (31%, n=36) and seldom (28%, n=32) most often. SWDD may not feel welcomed at an institution that does not routinely include people who look like themselves in marketing materials. This finding is confirmed in the literature that that marketing needs enhancement (Lightner, Kipps-Vaughan, Schulte, & Trice, 2012; Kreiden, Bendixen, Lutz, 2015). In the study conducted by Lightner, Kipps-Vaughan, Schulte, and Trice, (2012), lack of knowledge was cited as a theme for reasons why students with disabilities did not register with the DSS office. Hence, this explains the importance for multiple methods of outreach and inclusive marketing materials.

RQ 4: To what extent is identity theory reflected in the DSS Office characteristics and programs?

A finding was that Student Identity Development Theory was frequently used as a framework when considering documentation age and type as a holistic view of each student. This was identified in *Theme 5 – Subjective documentation age and type*. The primary comments regarding case-by-case basis and student input are under *Subjective documentation age and type – subtheme varies*. Over half (55%) of directors indicated that documentation age was not generally a factor.

It is interesting to note that Student Identity Development Theory as an overall framework was not consistently implemented in that offering services and programming could be a barrier primarily due to resources. This is demonstrated by respondent comments under *Theme 1 – Lack of operational resources.* This finding that Student Identity Development Theory is not generally employed when considering services outside of accommodations is supported by the literature (Edwards, 2014). Although, despite challenges relative to funding, more than half of offices (57%) offered between one and four program types.

Another finding relative to Student Identity Development Theory in the descriptive data is that more office names include the term "disability" than those who do not. In a review of 1,725 office names from the websites provided, there were 1,041 offices that contained the term "disability"; 292 that contained the term "support"; 305 that contained the term "access"; 211 that contained the term "resource"; 123 that contained the term "academic"; and 49 that contained the term "learning". As described in the literature review, in 1969, Chickering offered seven developmental points that contribute to identity development, one of those being establishing identity, (Chickering & Reisser, 1993). Although using the term *disability* makes the office easier to find, students must first establish an identity of having a disability. The names of the DSS offices are analyzed because language can be an important factor in a student's identity and advertising with an office name that feels empowering could encourage attendance at the institution and use of the office, conversely, disempowering language could cause some students to dismiss the institution or avoid using the services the office has to offer, which could decrease their potential for graduation if services are necessary. For example, although there are differences in how people identify, many people with disabilities prefer person-first language. Instead of being labeled as "disabled," another phrase that could be used is "person identifying

with a disability" or "person with a disability". Some students may feel adversely toward the term "support" as they may feel that they do not need support or help in addition to what their peers without disabilities receive. Instead, they only need barriers removed and an accessible environment for all students. Table 5 provides the frequencies for some terms within the office names. The overwhelming majority in both the population and the survey respondents include the terms "service," and "disability" in their office names. Terms such as "support," "disability support," "disabled," and "adaptive" may feel disempowering to a student's identity and are used less frequently.

A simplified version of Punctuated Equilibrium Theory as a framework was a finding identified in *Theme 7 – PET institutional policy change challenges* emerged from respondent comments. Small changes can take place within the offices; however, major changes that are institution wide were not always available when respondents would have liked them to be implemented. Generally, in the cases where institutional change is necessary, respondents may need to wait for a window of opportunity when institutional leaders are supportive and financial support is made available. This finding is supported in the literature in regard to higher education governance (Monear, 2008), but was not found in the literature review specific to DSS offices.

The quantitative data analysis results indicated that an increase in number of students registered with disability services for students is negatively correlated to four-year graduation rates for SWDD. This coincides with the descriptive data in that of the 153 respondents, 95 percent (n=145) indicated that the number of SWDD registered with their offices increase; whereas 61 percent of the respondents (n=89) indicated that there was not an increase in staffing. This is also supported by the qualitative findings, specifically in *Theme 7 – PET institutional policy change challenges.* As the number of students registered with the office increase, financial

resources and staffing remain the same (theme 1), and it is challenging to make major

institutional changes (theme 7). Major institutional changes oftentimes occur based upon

legislation or when directors secure a window of opportunity, although incremental changes that

are within the directors' authority continue to occur, based upon guidance from AHEAD and

constituent guidance. Incremental change until there is a punctuated event is a component of

PET.

These data specified that incremental changes within the offices were handled timely and

often. This is demonstrated by the offices that have strategic plans, the large number of

partnerships, and the number of written policies and procedures. It is also evident in the types of

procedures and policies that are written. When there is a legal requirement such as for

accommodations, services animals or emotional support animals in residence halls, there are

many more of these written policies and procedures in place. Because they are backed by legal

mandates, the data suggests that directors can have them established. However, when the policy

or procedure is less evident that they are required by law, there are fewer of them in place

suggesting that it may be more challenging for directors to implement. When attempting to

institute major changes that impact the overall institution, 60% of the directors indicated that

they face barriers to implementing this change. When considering this type of change, 80% of

directors use AHEAD for guidance. It is useful to have this external support to demonstrate to

leadership that the professional organization recommends the change.

Contribution to the Field

Since the majority of research in this field is from the perspective of the SWDD and the

faculty members who teach them, there is a dearth in the literature from the perspective of the

DSS directors. This study obtained information about the DSS offices from 153 director responses and builds upon the research from another highly valuable perspective, thus, contributing to the field.

The quantitative data analysis using Pearson's correlation test found that there are independent variables that contribute to the dependent variable of graduation rates for SWDD. This is a contribution to the field, although it is not generalizable and further student is recommended as only 33 respondents provided data on the dependent variable of graduation rates for SWDD.

The results from the quantitative analysis demonstrate that for the four-year graduation rate for SWDD is negatively correlated to the percent increase in SWDD registered with DSS offices. To mitigate this relationship so that SWDD graduate similarly to their peers, higher education senior leaders must consider ways to support DSS directors in running their offices as the number of registered students increase. One consideration is increased staffing at a rate relative to the increase in students served. Since this may not be feasible when resources are scare for institutions, other recommendations include enhancing collaborations if there are areas that have not been fully utilized, and training faculty members to take a larger role in making the institution accessible without additional accommodations for students when an environment is inaccessible.

The results from the quantitative analysis also demonstrate that for the four-year graduation rate for SWDD is correlated to the DSS office receiving guidance from a student advisory council. In most cases, this could be a relatively simple change to implement, thus, contributing to the field. However, it is understood that where increases in staffing have not

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coincided with increases in registered students, committing staff time to this practice may be problematic.

Oftentimes in the literature, students with disabilities are referred to as SWD. Students with disclosed disabilities are also referred to as SWD. This study refers to students with disabilities as SWD and students with disclosed disabilities as SWDD. This is an important distinction as there are many SWD that choose not to disclose their disabilities and do not seek accommodations once they are enrolled in higher education.

This study found data relative to institutions types. There are differences between public and private institutions regarding the DSS offices. More public than private offices have strategic plans, priority registration, and track a larger number of data types. There are a larger number of registered SWDD enrolled in institutions in cities and suburbs as opposed to towns and rural institutions.

The data demonstrated that there are funds for accommodations but not a good deal more of what the office needs. For example, only 25% of offices offer in-person training on disability topics and partnerships and collaborations are important and necessary to carry out the work. The partnership and collaboration piece is related to both funding and because serving all students is a function of the entire institution.

This study confirms existing literature in several areas: documentation age and documentation type are not implemented consistently across higher education institutions; many offices have increased registered students without a corresponding increase in staffing; offices with multiple partnerships, student advisory councils and priority registration are beneficial to SWDD; marketing enhancements would be useful; employing student development relative to

anything other than accommodations is a challenge; and PET is oftentimes employed relative to higher education governance.

Consideration of Student Identity Development Theory is an excellent frame relative to office names and documentation. The office names generally use inclusive language that would take the student's identity into consideration instead of language that could feel disempowering to students. The documentation that is accepted by directors generally take the entire student's identity into consideration. There are fewer offices that have stringent rules in regard to age and documentation type.

Consideration of Punctuated Equilibrium Theory as a framework for implementation of major changes relative to disability services in higher education is a unique lens in that there is literature to support this in regard to higher education governance (Monear, 2008); but not specifically relative to DSS offices. The data suggests that the directors are able to produce incremental changes based upon AHEAD guidance and constituent suggestions; however, major changes do not generally occur unless there is a punctuated event such as a change in legislation. PET and implementation of legislation for DSS offices could be an area for future consideration as it was not fully explored in this study.

Limitations and Delimitations

A delimitation of this study was that the directors were not asked about the types of disabilities the students registered with their office had. It is possible that the disability type could have an effect on graduation rates. "SWDs as a special population in higher education have unique and diverse needs given the unique and diverse nature of disability" (Barnar-Brak, Lectenberger, & Lan, 2010, p. 421). Questions regarding disability type were not asked for two

reasons: 1) it increased the length of the survey which could have deterred DSS director participation 2) the data may not have been readily available to DSS directors which could have also deterred participation.

Another delimitation of the study was that directors were only asked questions for consideration of the framework of Punctuated Equilibrium Theory relative to their personal opinions on change. The reason for this was because the opinions of the directors are readily available to them; whereas they would have to search for other types of responses. For ease of responding to the survey, the questions were intentionally asked as opinions. The result is that this portion of the study is descriptive in nature.

A third delimitation of the study is that directors were not asked about their educational backgrounds, degree attainment, professional experience, or if they examine their own biases. Although answers to these questions are an important part of the implementation of the services within the DSS offices, after careful consideration and consultation with Lori Wingate, Ph.D., director of Research, Evaluation Center, Western Michigan University, it was determined that the questions should be excluded. Potential respondents may find the questions invasive and decide not to finish the survey. This would create more harm to the study than actually enhancing the data collected. Additionally, the length of the survey needed to be reduced so that potential respondents do not remove themselves from the survey simply because it is taking up too much of their time to complete.

This study is focused on four-year and higher degree-granting institutions with offices of disability services for students. Although findings may be useful in practice for two-year institutions and institutions without a central DSS office, it is not generalizable to those populations resulting in a delimitation.

A limitation of the study is that only institutions with DSS offices that were clearly listed on the institution's website were included in the study. Institutions that did not have a DSS online presence were systemically excluded. Along those same lines, a possible area of bias is that potentially poorly organized DSS offices may be less responsive to the survey. Highly organized DSS offices may respond at a higher level and bias toward the positive.

This study reveals findings for DSS offices for students who have disclosed their disabilities and sought accommodations. The study has a limitation in that it did not consider the experiences or lack of experiences with DSS offices and students with disabilities who chose not to register with the office.

A limitation of this study was that it did not result in a substantial number of data that included a four-year graduation rate for SWDD. Although there were 153 useable survey responses and data from those surveys is useful, with only 33 respondents providing information about their institution's SWDD four-year graduation rate, the sophisticated data analysis is limited.

Future Study

This study was originally intended to use multiple regression with the DSS office characteristics as independent variables and the SWDD four-year graduation rates as the dependent variable. Although there was a sufficient response rate of 10% (n=153), only 33 respondents provided data on the dependent variable. This limited the results and changed the statistical analysis. When developing the study, the researcher was aware that this could be a concern in that not all directors collect this data or have it readily available to provide in a survey. This would be a beneficial study for practitioners and a future study could provide this if

the researcher can obtain a significantly higher number of directors who have the data readily available and are willing to provide it in the survey.

Punctuated Equilibrium Theory was considered as a framework for implementation of legislation by student disability offices in higher education in this study. The descriptive data and the qualitative data supported this lens; however, further analysis using PET and quantitative analysis could also be useful. The survey questions regarding major change were challenging to explain to respondents. This quote from one respondent summarizes what several conveyed, "I don't know what you mean by this question." Information in this regard was provided through comments from the directors who interpreted the question as the researcher intended, however, if the question was written more clearly, this would have increased available data. Moreover, even if the question was written more clearly, a better method for considering PET as a framework would be through conversations with the directors. PET and implementation of legislation for DSS offices could be an area for future consideration as it was not fully explored in this study.

An area for future study is on retention of students with disabilities as this was not a focus of this particular study, and it was noted that it is an area where there are gaps in the literature. Fike (2008) states that "it is incumbent upon institutions to focus on student success and determine predictors of student retention" (p. 68). In consideration of retention, the colleges Carnegie and universities also responded to the 2010 ACT survey to indicate specific institutional characteristics that affect attrition for the general student population (2010). Many of these characteristics are a concern for the entire student population, but are further compounded for the population of students with disabilities. King (2014) explains that although there is a great deal of research regarding retention, "individuals with disabilities are ignored as a major social group in the retention literature. Much of the focus in the higher education literature

for individuals with disabilities has been on needed accommodations and the unique social

challenges individuals with disabilities encounter" (p. 25).

Although significant amounts of resources are no longer needed to develop a website, the

data in this study suggests that the smaller institutions are the ones that are least likely to

establish websites. This raises avenues for future research. A future study could learn if smaller

institutions are less likely to have websites. If this is truly the case, is this a function of limited

demand, a method for controlling demand in institutions that do not have many resources for

DSS offices, or are there other reasons for the lack of DSS websites at smaller institutions?

Conclusion

As evidenced by this study relative to many disability services offices initializing

accommodations but struggling to offer more, some higher education institutions strive for

inclusivity relative to serving people with disabilities; whereas other institutions work toward

implementation of what is necessary and required by law. For those institutional leaders who are

able to consider improvements for their DSS offices to enhance graduation rates for SWDD, this

study can offer an opportunity for reflection upon what the current office has available and what

many offices choose to offer when reviewing the patterns demonstrated in the data.

This study confirmed findings in the literature and offered new findings for the practice

of disability services directors in higher education. The role of DSS director in research

regarding the higher education offices has not been considered as heavily as faculty members

and SWDD when researching disability and higher education. Experiential wisdom from 153

practitioners was provided in this study in an effort to gain insight into what works in practice

and what are the patterns of characteristics when directors implement legislation through this office in exploration of the research questions.

This study demonstrated correlations where there was currently a dearth in the literature. An increase in registered SWDD is negatively correlated to the 4-year graduation rates of SWDD. Institutions whose DSS offices have a student advisory council are positively correlated to the 4-year graduation rates of SWDD. Although important correlations, with only 33 director responses for the dependent variable, the correlations are not generalizable. However, it does demonstrate an important consideration for practice. Directors who do not currently have student advisory councils may choose to consider this as an option to guide their offices.

Moreover, a vast majority of directors do not have data regarding the 4-year graduation rates for SWDD or the GPA of registered SWDD. For directors to know if their office is effective at graduating SWDD, it would be useful to have this data and compare it to the overall institution's graduation rates and GPAs.

Through descriptive and inferential statistics, the study found differences between public and private institutions regarding the DSS offices. There was a dearth in the literature in this regard as well. More public than private offices have strategic plans, priority registration, and track a larger number of data types. This is important for directors of private institutions to note for consideration of investing resources in developing a strategic plan, rethinking the reasons for not having priority registration for SWDD, and beginning to track more data types for determining what is effective for SWDD.

Additionally, the acronym currently used in the literature for students with disabilities is SWD. It is important to note the distinction between SWD and students with disclosed disabilities or SWDD as there are many students with disabilities in postsecondary education

who do not disclose that they have disabilities. They may not register with the DSS office. Grouping all of the students with disabilities who disclose and those who do not disclose into one category does not adequately describe the population. A new acronym of SWDD can be considered in future texts.

This study also creates a platform for future studies in this area for practice from the director perspective.

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Appendix A

Survey

Survey

The purpose of this study is to learn which types of disability services office characteristics in bachelor-degree granting (or higher) institutions contribute to the highest graduation rates for registered students with disabilities.

Estimates are acceptable. It will take approximately 20 to 25 minutes to complete the survey.

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point.

Your contribution is important to the study to provide practitioners with more information regarding what types of services correlate to higher graduation rates for students with disabilities. Your survey responses will be strictly confidential and data from this research will be reported only in aggregate.

If you have questions about the survey or the procedures, contact Tiffany B. White at (269) 598-0636 or by emailing tiffany.white@wmich.edu.

There will be a random drawing for $100 and $50 gift cards should you choose to enter. You may also choose to receive access to the dissertation upon completion if you are interested in the results.

Thank you very much for your time and support. Please start the survey by clicking the "Next" button below. There will be a "Next" button on each page. The final page has a "Done" button.

This survey seeks the respondent at your institution who is most knowledgeable about the services provided to students with registered disabilities. Are you responsible for the work of the office that serves students with disabilities?

☐ Yes ☐ No

Full name of institution:

☐

Institution City:

☐

☐   Select or type your institution's state.

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What data does your office track for students with disabilities?

	Retention Rates
	Graduation Rates
	GPAs
	Number of honors placements
	Number of hours office staff convert accessible materials
	Frequency of student contact with office staff
	Job placement during educational career
	Job placement after graduation
	Type of disability of students registered with the office
	Number of educational or programming opportunities provided by your office
	Number of contacts with faculty members
	Number of contacts with staff members
	Other

What was the ESTIMATED number of students registered with your office in the fall 2017 semester?

Indicate the ESTIMATED percentage of full-time, first-time, bachelor's (or equivalent) degree-seeking undergraduate students who entered in fall 2013 and graduated within four years. Include in the cohort those who entered your institution during the summer term preceding fall 2013.

	Percentage for Overall Institution	Percentage for Students Registered with Disability Services	Data Not Available (Enter "Unavailable")
4-year graduation rate			

Indicate the ESTIMATED percentage of full-time, first-time, bachelor's (or equivalent) degree-seeking undergraduate students who entered in fall 2011 and graduated within six years. Include in the cohort those who entered your institution during the summer term preceding fall 2011.

	Percentage for Overall Institution	Percentage for Students Registered with Disability Services	Data Not Available (Enter "Unavailable")
6-year graduation rate			

Has the number of students who receive services from your office increased in the past five years?

☐ Yes ☐ No

By what ESTIMATED percentage has the number of students registered with your office increased over the past five years?

[ ]

By what ESTIMATED percentage has the number of students registered with your office increased over the past five years?

[ ]

Have staffing levels increased with the additional students being served by your office?

☐ Yes ☐ No [ ] Comments/Explanation

Does your institution offer a disability studies educational major, special education major, or major related to disabilities?

☐ Yes ☐ No ☐ Unsure

Indicate your level of agreement or disagreement about your disability services office. My office has funds available . . .

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
To purchase office furniture when needed.					
To purchase office supplies when needed.					
To provide programming for students with disabilities.					
For adequate staffing levels for the disability office.					

To provide trainings/professional development for faculty members.		
To provide trainings/professional development for teaching assistants and part-time instructors.		
To provide trainings/professional development for staff members.		
For accommodations/modifications.		

Comments/Explanation:

Which of the following sources provide funding for accommodations/modifications? (Select all that apply).

[ ] Disability Services Office

[ ] Next unit-level (example: vice presidential area, student affairs)

[ ] Office of the Provost / Academic Affairs

[ ] Office of the President

[ ] Other

Comments/Explanation:

What fund types support the disabilities office (Select all that apply)?

[ ] General funds

[ ] Endowment funds

[ ] External grant funds

[ ] Internal grant funds

[ ] Other

[_____]

Comments/Explanation:

Full-Time Equivalencies (FTEs) = 40 hours per week. (Example: .50 FTE + .33 FTE + .67 FTE = 1.5 FTE).

Total ESTIMATED full-time staff members employed within the disability services office - exclude student employees, part-time employees, and temporary employees.
(Example: 1.00 FTE + 1.00 FTE = 2.00 FTE)

[ ]

Total ESTIMATED part-time equivalencies (FTEs) employed within the disability services office - excluding student employees.
(Example: .50 FTE + .33 FTE + .67 FTE = 1.5 FTE)

[ ]

What is the ESTIMATED weekly total number of hours for graduate assistants (master's level or doctoral level) and graduate interns working in your office?
(Example: 5 hours per week + 10 hours per week + 15 hours per week = 30 hours per week)

[ ]

What is the ESTIMATED weekly total number of hours for undergraduate student employees working in your office?
(Example: 5 hours per week + 10 hours per week + 15 hours per week = 30 hours per week)

[ ]

Select all the positions that work within your office or are dedicated to solely serving students with disabilities.

	Director
	Assistant Director
	Administrative Assistant
	Advocate
	Alternative Format Specialist
	American Sign Language (ASL) Provider
	Assistive Technology Expert
	Closed Captionist
	Communication Access Real-Time Translation (CART) Provider
	Dedicated Academic Advisor
	Dedicated Blindness and Low Vision Staff Person
	Dedicated Career Counselor
	Dedicated Personal Counselor
	Disability Educator
	Disability Specialist/Accessibility Specialist

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	Marketing Specialist
	Testing Coordinator
	Transition Coach
	Other

Comments/Additions:

To which area(s) does your office directly report?

	Academic Affairs
	Diversity Office
	Human Resources
	Institutional Equity/Compliance
	Legal Office
	President's Office
	Provost's Office
	Student Affairs
	Other

In which department does your institution's Americans with Disabilities Act (ADA) compliance officer work?

	Academic Affairs
	Diversity Office
	Human Resources
	Institutional Equity/Compliance
	Legal Office
	President's Office
	Provost's Office
	Student Affairs
	Other

Do you oversee offices in addition to the disability services office?

	Yes		No

If yes, list any other offices you oversee.

For which of the following groups does your office provide disability services? (Select all that apply.)

	Students
	Faculty
	Staff members
	Student employees
	Graduate students with employment appointments
	Volunteers
	Community members
	Other

Which of the following communication methods apply to your office when communicating with students with disabilities?

	Facebook
	Twitter
	Instagram
	Printed newsletter
	Electronic newsletter
	Mass emails directed to students registered with your office
	Electronic system portal announcements for students registered with your office
	Other

Which of the following educational opportunities does your office provide? (Select all that apply.)

	Print or electronic materials to assist faculty or staff members in working with students with disabilities
	Print or electronic materials to assist faculty or staff members in working with students with disabilities
	Online training for faculty or staff members on disability topics
	In-person training for students on disability topics
	Online training for students on disability topics
	In-person training specifically for academic advisors
	Online training specifically for academic advisors
	None
	Other

Comments/Additions:

Which of the following types of programs are offered by your office or institution for students with disabilities:

	Awards for student leaders who are exceptional in creating a welcoming and inclusive institutional environment
	Awards for professors or staff members who are exceptional in creating a welcoming and inclusive institutional environment
	Campus climate study including questions related to students with disabilities at least every five years
	Faculty and/or staff mentors for students with disabilities
	Faculty mentors for faculty members and teaching assistants who serve students with disabilities
	Registered student organizations for students with disabilities
	Tutors trained to work with students with disabilities
	Educational programs on disability identity and/or disability pride
	Opportunities for students with disabilities to study abroad
	Programs for students on the autistic spectrum
	Summer transition programs for incoming students with disabilities
	Sports clubs for students with disabilities
	On-site therapy animals available to students during specified hours
	On-campus transportation for students with temporary disabilities
	Fee-for-service programs offered in addition to other DSS office programming
	Office staff visit local high schools to assist students transitioning from high school to higher education
	Office staff visit local community colleges to assist students transitioning to your institution
	Other

Which of the following accommodations/modifications that could be available to students with disabilities who qualify.

	Electronic system or database for students with disabilities to log into for access to disability-related services
	Faculty committee on accommodating students with disabilities
	Lounge or other physical space for students with disabilities
	Testing space for extended testing time
	Testing space or location with reduced distractions
	Testing center
	Scholarships for students with disabilities
	Other

Comments/Additions:

Which of the following accommodations/modifications are available to students with disabilities who qualify? (Select all that apply.)

	Adaptive equipment and technology (e.g., assistive listening devices, talking computers)
	Additional exam time
	Alternative exam formats (e.g., large print, Braille, audio formats)
	Assistance with learning strategies or study skills
	Audio textbooks/digitally recorded texts
	Career or placement services specifically designated for students with disabilities
	Classroom note takers
	Counseling about vocational rehabilitation services
	Course substitution or waiver
	Disability benefits counseling (e.g., SSI, SSDI, Medicare, Medicaid)
	Disability resource handbook for students
	Food storage for students with severe allergies to bring their own meals
	Independent living skills training
	Moving classes to a more accessible location
	Oral interpreters/transliterators
	Additional fee-based services for enhanced support
	Paratransit for on-campus mobility
	Physical adaptions to classrooms
	Priority class registration
	Readers
	Real-time captioning
	Scribes for tests
	Sign language interpreters/transliterators
	Social skills training
	Transportation for temporary disabilities
	Tutors to assist with ongoing coursework
	Video captioning option for faculty and staff

Does your office have a strategic plan (not the next level, but specific to your unit)?
☐ Yes ☐ No

In your view, is the disability office on campus easy for students with disabilities to find?
☐ Yes ☐ No

Which of the following does your office accept as documentation for services. (Select all that apply.)

	Communication from faculty member
	Test or report from a faculty member who has the student in class
	High school IEP Plan
	High school 504 Plan
	Letter from a family member
	Letter, report, or test from a medical doctor or psychiatrist
	Letter, report, or test from a mental health professional (psychologist, social worker, etc.)
	Recommendations regarding past supports that worked from teachers or paraprofessionals
	Other

How current must documentation be?

	No more than three years old
	No more than five years old
	Documentation age is not generally a restriction
	Other

For which of these topics does your institution have written policies or procedures?

	Service Animals
	Approves emotional support/therapy/assistance animals in residence halls as an accommodation
	Addresses students with allergies to specific animals
	Addresses students with phobias to specific animals
	Addresses ways to accommodate students whose faiths make it difficult for them to touch specific breeds of animals
	Accommodations/Modifications
	Flexible attendance
	Extended testing
	Universal Design for instructors
	Clause in Purchasing policy or procedure that software must be accessible

How often does your institution's marketing materials include a diverse representation of students with disabilities?

Almost Always	Often	Some-times	Seldom	Never

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Does your office have partnerships or collaborations with any of the following?

	Yes	N/A (office not at institution)
Academic advisors		
Admissions		
Athletics Department		
Counseling Services		
Development Office		
Faculty Development		
Facilities Management		
Graduate College		
Grants or Research Office		
Health Center		
Information Technology		
Landscape Services		
Legal Counsel		
Libraries		
Military and Veteran's Affairs		
Office of Transfer Students		
TRIO programs		
Residence Life		
Dining Services		
Academic Support Center		
Athletics Center		

Which of the following groups do you inform about the availability of your office? (Select all that apply).

	Admitted Students
	Prospective Students
	Parents and Families
	Other

How frequently are major changes implemented with your office or campus relative to students with disabilities?

	At least once every three months
	At least once between four and 11 months
	At least once between one and three years
	At least once between four and seven years
	Other

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┌─────────────────────────────────────┐
│                                     │
└─────────────────────────────────────┘
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Comments:

To what extent are each of the following a source of change within the disability office?

	To a Great Extent	Some-what	Very Little	Not at All	N/A
Academic advisors					
Admissions					
Athletics Department					
Counseling Services					
Development Office					
Faculty Development					
Facilities Management					
Graduate College					
Grants or Research Office					
Health Center					
Information Technology					
Landscape Services					
Legal Counsel					
Libraries					
Military and Veteran's Affairs					
Office of Transfer Students					
TRIO programs					
Residence Life					
Dining Services					
Academic Support Center					

Are there major changes that you believe are necessary on your campus related to students with disabilities but are not initiated because of barriers your office or your institution encounters?

☐ Yes   ☐ No

Indicate the likelihood of the following to serve as barriers to major changes within the disability office.

	To a Great Extent	Some-what	Very Little	Not at All	N/A
Senior leadership or cabinet member(s).					
Faculty member(s).					
Instructor(s) or teaching assistant(s).					
Financial constraints.					
Culture of the institution.					
Facilities and infrastructure.					
Resident life staff member(s).					
Information technology staff members.					
Information technology limitations within the institution.					
Vendors.					

Comments:

In making changes relative to disability services in your institution, which of the following do you use as a resource? Check all that apply.

	AHEAD (Association for Higher Education and Disability)
	Center for Inclusive Design and Environmental Access
	Disabilities, Opportunities, Internetworking, and Technology (Do-It Center) at the University of Washington
	Disability services listservs or message boards
	Institution's legal counsel
	Literature reviews
	National Center on Disability and Access to Education (NCDAE)
	Office of Civil Rights (OCR) settlement agreements
	Communication from faculty and staff
	Communication from students
	Other

```
                                                                          
```

Does your office receive guidance from an internal higher education student advisory board/council/committee?

☐ Yes ☐ No

To which professional networks do you belong (e.g. Association on Higher Education and Disability, AHEAD; Council for Learning Disabilities, CLD; International Dyslexia Association, IDA; Learning Disabilities Association, LDA, etc.)?

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Name, phone number, and email address of person responsible for disability services for students at your institution.

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Appendix B

HSIRB Approval Letter

WESTERN MICHIGAN UNIVERSITY

Date: November 1, 2018

To: Robert Peters, Principal Investigator
        Tiffany White, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair *Amy Naugle*

Re: Approval not needed for IRB Project Number 18-11-02

This letter will serve as confirmation that your project titled "Characteristics of Offices of Disability Services in Bachelor-Degree Granting Institutions Contributing to the Highest Graduation Rates for Registered Students" has been reviewed by the Western Michigan University Institutional Review Board (IRB). Based on that review, the IRB has determined that approval is not required for you to conduct this project because you are not collecting personal identifiable (private) information about individuals and your scope of work does not meet the Federal definition of human subject.

45 CFR 46.102 (f) Human Subject

(f) *Human subject* means a living individual **about whom** an investigator (whether professional or student) conducting research obtains:

> (1) Data through intervention or interaction with the individual, or
> (2) Identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes. *Interaction* includes communication or interpersonal contact between investigator and subject. *Private information* includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

"**About whom**" – a human subject research project requires the data received from the living individual to be about the person.

Thank you for your concerns about protecting the rights and welfare of human subjects.

A copy of your protocol and a copy of this letter will be maintained in the IRB files.

Appendix C

Initial Email Invitation

Initial Invitation Email

Hello [Name if located on website]

You are invited to participate in a survey for a doctoral student's dissertation research. The purpose of this study is to survey directors of disability services offices in bachelor-degree granting (or higher) institutions and learn which types of office characteristics contribute to the highest graduation rates for registered students with disabilities. Some questions inquire about enrollment, graduation rates, funding, and staffing levels. Estimates are acceptable.

It will take approximately 20 to 25 minutes to complete the questionnaire. Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point.

Your contribution is important to the study to provide practitioners with more information regarding what types of services correlate to higher graduation rates for students with disabilities. Your survey responses will be strictly confidential and data from this research will be reported only in aggregate.

If you have questions about the survey or the procedures, contact Tiffany B. White at (269) 387-6327 or tiffany.white@wmich.edu.

There will be a random drawing for $100 and $50 gift cards should you choose to enter. You may also choose to receive access to the dissertation upon completion if you are interested in the results. The survey will be open through November 30, 2018.

Survey Link: [   ]

Thank you very much for your time and support.

Tiffany B. White
Doctoral student at Western Michigan University
School of Public Affairs and Administration

Appendix D

Reminder Email Invitation

Reminder Invitation Letter (Proposed distribution date: Nov. 19, 2018)

Hello [Name if located on website]

Last week, an email invitation to complete a survey was sent to you to support research for my dissertation. The purpose of this study is to survey directors of disability services offices in bachelor-degree granting (or higher) institutions to learn which types of office characteristics contribute to the highest graduation rates for registered students with disabilities. Your response is highly valued and will contribute to data regarding disability offices. Please consider completing the survey.

_____

You are invited to participate in a survey for a doctoral student's dissertation research. The purpose of this study is to survey directors of disability services offices in bachelor-degree granting (or higher) institutions to learn which types of office characteristics contribute to the highest graduation rates for registered students with disabilities. Some questions inquire about enrollment, graduation rates, funding, and staffing levels. Estimates are acceptable.

It will take approximately 20 to 25 minutes to complete the questionnaire. Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point.

Your contribution is important to the study to provide practitioners with more information regarding what types of services correlate to higher graduation rates for students with disabilities. Your survey responses will be strictly confidential and data from this research will be reported only in aggregate.

If you have questions about the survey or the procedures, contact Tiffany B. White at (269) 387-6327 or tiffany.white@wmich.edu.

There will be a random drawing for $100 and $50 gift cards should you choose to enter. You may also choose to receive access to the dissertation upon completion if you are interested in the results. The survey will be open through November 30, 2018.

Survey Link: [   ]

Thank you very much for your time and support.

Tiffany B. White
Doctoral student at Western Michigan University
School of Public Affairs and Administration

Appendix E

Phone Script

Phone script for research assistants

Hello! This is _____. I am a research assistant for a doctoral student collecting data for her dissertation. I am calling to speak with _____ regarding the survey that was emailed on Nov. 12 and 19. The survey will be open through Nov. 30. The study focuses on seeking characteristics of offices of disability services in bachelor-degree granting institutions that contribute to the highest graduation rates for registered students.

Your response is highly valued and will contribute to data regarding disability offices as well as support a doctoral student's research. Please consider completing the survey. If you have questions, please contact Tiffany B. White at (269) 598-0636 or via email at tiffany.white@wmich.edu.

Thank you for your time!

Appendix F

Gift Card Recipient Emails

Thank you for participating in a survey for my dissertation research on November 21. The information you provided will be useful to the research regarding disability services offices in higher education and will contribute to completion of my dissertation. I am very grateful for your support.

Based upon assigning random numbers to the recipients who entered the drawing for a gift card, your email address was selected to receive the $100 gift card.

Please provide me with the full address where you would like the card sent.

Congratulations!

Best,

Tiffany B. White, MPA
Director of Operations
Office of Diversity and Inclusion
Western Michigan University
Adrian Trimpe Building
1903 W. Michigan Ave.
Kalamazoo, MI 49008-5372
Office: (269) 387-6327 Fax: (269) 387-6331

Pronouns: she/her/hers
Go Broncos!

Thank you for participating in a survey for my dissertation research on November 26. The information you provided will be useful to the research regarding disability services offices in higher education and will contribute to completion of my dissertation. I am very grateful for your support.

Based upon assigning random numbers to the recipients who entered the drawing for a gift card, your email address was selected to receive the $50 gift card.

Please provide me with the full address where you would like the card sent.

Congratulations!

Best,

Tiffany B. White, MPA
Director of Operations
Office of Diversity and Inclusion
Western Michigan University
Adrian Trimpe Building
1903 W. Michigan Ave.
Kalamazoo, MI 49008-5372
Office: (269) 387-6327 Fax: (269) 387-6331

Pronouns: she/her/hers
Go Broncos!