PERCEPTIONS OF EXTENDED TIME ACCOMMODATIONS AMONG POSTSECONDARY STUDENTS WITH DISABILITIES

by

MARY HALL SLAUGHTER

(Under the Direction of Jennifer H. Lindstrom)

ABSTRACT

Students with disabilities often take tests using extended time accommodations, which provide students with additional time to complete tests in order to reduce the impact of their disability on their scores. At the postsecondary level, students must take the initiative to seek and request accommodations, and their perceptions of them likely influence which, if any, accommodations they use when taking a test. Through interviews with postsecondary students with disabilities, the current study identified students' perceptions about extended time, including the frequency with which they use it, factors that impact their usage (e.g., test format, disability symptoms), and obstacles they have faced in obtaining and utilizing their accommodations (e.g., instructor-related concerns, social ramifications). It is hoped that these findings help disability service providers (DSPs), psychologists, and students with disabilities make more informed decisions regarding the use and provision of extended time accommodations in college.

INDEX WORDS: testing accommodations, extended time, student perceptions, students with disabilities

PERCEPTIONS OF EXTENDED TIME ACCOMMODATIONS AMONG POSTSECONDARY STUDENTS WITH DISABILITIES

by

MARY HALL SLAUGHTER

BS, The University of Georgia, 2017

BA, The University of Georgia, 2017

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2019

PERCEPTIONS OF EXTENDED TIME ACCOMMODATIONS AMONG POSTSECONDARY STUDENTS WITH DISABILITIES

by

MARY HALL SLAUGHTER

Major Professor: Jennifer H. Lindstrom
Committee: Amy L. Reschly
Scott P. Ardoin

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
May 2019

ACKNOWLEDGEMENTS

I would like to thank the Disability Resource Center at the University of Georgia for their time and efforts put forth to assist us in carrying out this study. It certainly could not have been done without them. I also would like to thank the students who volunteered their time to participate in this study. We greatly appreciate all of the thoughts and comments that each student shared.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

CHAPTER ONE

INTRODUCTION

The Provision of Accommodations in Postsecondary Education

The increasing rates of postsecondary students with disabilities are due in part to the passage of the Americans with Disabilities Act (ADA, 1990), in addition to Section 504 of the Rehabilitation Act of 1973 (U.S. Department of Education, 2015; Rothstein, 2004). Section 504 and ADA protect postsecondary students with disabilities from discrimination on the basis of their disability. Included within this regulation is the provision of reasonable accommodations, which requires postsecondary institutions to provide *all* students with equitable opportunities to learn (Greenberg, 2017). Although there is variability across postsecondary institutions in the types of services and accommodations provided for students with disabilities, testing accommodations are especially common (Lindstrom, 2007). These accommodations serve to alter the administration format of a test (e.g., environment, written) and remove barriers (e.g., limited time, small print) that may impede students with disabilities from demonstrating their knowledge (Bolt & Thurlow, 2004; Lovett & Leja, 2015).

Unlike in primary and secondary education, where the Individuals with Disabilities Education Act (IDEA, 2004) mandates that schools provide services when warranted, students with disabilities are not automatically granted access to accommodations when they enter college. Instead, students must initiate this process once they reach the postsecondary level, meaning that they are responsible for submitting documentation of their disability in order to receive accommodations in college (Cawthon & Cole, 2010). Once their disability has been

documented, the postsecondary institution is required to provide reasonable accommodations that enable students with disabilities equitable opportunities to learn and demonstrate what they have learned (Bolt, Decker, Lloyd, & Morlock, 2011; Greenberg, 2017).

Testing Accommodations

A variety of factors can limit the degree to which students with disabilities demonstrate their knowledge on a test. Notably, disability conditions often introduce irrelevant factors (e.g., slow processing speed, poor motor skills, anxiety) that are unrelated to what the test is intended to measure (i.e., relevant factors) but can explicably lower students' scores (Bolt & Thurlow, 2004; Lovett & Leja, 2013). Thus, testing accommodations intend to eliminate these irrelevant factors so that the relevant factors (e.g., knowledge of science) can be accurately measured and portrayed. That is, testing accommodations aim to reduce the impact of students' disabilities on their test scores so that students can demonstrate their true academic potential. In other words, accommodations "level the playing field" of academic assessments (Fuchs, Fuchs, Eaton, Hamlett, & Karns, 2000).

Although they vary from institution to institution, there are a multitude of testing accommodations available for students with disabilities. These include, but are not limited to, alterations in presentation (e.g., large print text, oral presentation), test taking environment (e.g., reduced-distraction, private room), and the amount of time allowed on tests (time-and-a half or double time; Bolt et al., 2011). Of these, extended time is among the most commonly provided testing accommodations, as it is given to students with a wide range of disabilities (Lovett, 2011). In fact, among institutions that enrolled students with disabilities during the 2008-2009 academic year, 93% of them provided extended time as an accommodation (Raue & Lewis, 2011). It is likely that this number has even further increased in the more recent years.

Extended Time

In line with the purpose of testing accommodations, disability conditions may inhibit students from demonstrating their knowledge within the standard testing time (Lovett, 2010). For instance, a student with a reading disability may read the test items at too slow of a pace to complete the test within standard time, or a student with attention-deficit/hyperactivity disorder (ADHD) may have a difficult time focusing their attention on the test, taking away from his or her time. In cases such as these, irrelevant factors that result from the student's disability may introduce a problem with the construct validity of the test (Lovett, 2010). The test, then, is not an accurate and valid measure of the student's knowledge when these irrelevant factors inhibit him or her from completing the test and therefore result in a lower test score (Sokal & Vermette, 2017). With this in mind, extended time accommodations aim to eliminate this construct-irrelevant variance by providing students with additional time to complete a test in order to reduce the impact of irrelevant factors on test scores (Lovett, 2010).

Although there is a distinct purpose of extended time accommodations, they are also controversial, in part because critics have noted that they introduce concerns of construct validity (Lovett, 2011). Specifically, a number of researchers have detected findings that have led them to question the validity of scores on tests taken under extended time conditions. For instance, researchers (e.g., Jansen, Petry, Evans, Noens, & Baeyens, 2018; Sokal & Vermette, 2017) have conveyed that extended time accommodations may be given to students too readily, without fully considering the effects of the additional time on test scores. Since there are no set criteria for determining when extended time is warranted or how much (e.g., time-and-a half, double time) should be provided, disability service providers (DSPs) and psychologists are often left to make their best judgement in terms of what is best for the particular student (Lovett, 2011). If this

judgement is not entirely accurate, and a student is unnecessarily provided with extended time, or provided with too much, the validity of scores on any test the student takes (with accommodations) may be at stake.

Typically, students are given time-and-a half, or 50% additional time; however, research has indicated that students often do not use the entirety of their extended time. Namely, Sokal and Vermette (2017) examined the extended time (75%) use of exams (*N*=8,857) taken by postsecondary students with disabilities. Results from the study indicated that students did not use any of their extended time on 36% of exams; that is, 36% of exams were completed within standard time. Additionally, the findings also revealed that approximately half of the exams (55%) were completed within 25% additional time. Given this, the researchers concluded that the amount of extended time provided could be reduced for many of these students; however, they emphasized that it should not be taken away entirely, as the majority of students (64%) used at least some of their extended time.

Other research has indicated that simply having extended time reduces students' stress and anxiety, so much so that they do not need to use their extended time (Elliott & Marquart, 2004; Sokal & Desjardins, 2016). Specifically, students may not worry as much about completing their test on time, allowing them to focus more effectively on the test itself. To illustrate, a study by Elliott and Marquart (2004) examined anxiety levels of eighth-grade students following a mathematics assessment. Results from the study indicated that 78% of the students with disabilities reported that they felt more relaxed during the accommodated test administration (i.e., when extended time was provided). Moreover, a similar study by Feldman, Kim, and Elliott (2011) measured attitudinal constructs (self-efficacy, motivation, positive regard, anxiety) before and after a group of eighth-grade students completed a language arts test.

Findings from the study indicated that students who received accommodations (e.g., unlimited time, directions read orally) demonstrated pre-post gains in self-efficacy and a statistically significant pre-post drop in anxiety, whereas neither occurred for students who did not receive accommodations. Therefore, the researchers from both studies concluded that extended time may help students to feel more confident in their abilities and less anxious about the test, increasing their ability to focus and perhaps complete the test at a faster pace.

Student Perceptions of Testing Accommodations

Despite their intended use, many students with disabilities do not make use of the services and accommodations that are available to them. Some never register with the disability services office (DSO), whereas others initially register but choose to forgo use of their accommodations (Cole & Cawthon, 2015). The latter may be due to a variety of reasons, including perceived usefulness, negative experiences with instructors, social stigmatization, or fear of disability disclosure (Marshak, Van Wieren, Ferrell, Swiss, & Dugan, 2010). Notably, disability disclosure has been called a double-edged sword, as any benefits to be gained are often offset by the negative effects (Timmerman & Mulvihill, 2015). For instance, requesting testing accommodations for a course requires students to reveal to instructors that they have a disability. In this case, students are left to decide whether to disclose their disability to their instructors and classmates in order to utilize testing accommodations, or to forgo accommodations for that course, a choice that may hinder their academic success (Cole & Cawthon, 2015).

As Lovett and Leja (2013) pointed out, students in postsecondary education must take the initiative to seek and request accommodations, and their perceptions about their usefulness is likely to influence which, if any, accommodations they use when taking a test. Additionally, if students do not perceive accommodations as beneficial, or possibly even perceive them as

burdensome, they may choose to forgo using testing accommodations, which may have detrimental effects on their test scores. Given the amount of responsibility college students with disabilities have in regard to their use of accommodations and the impact that accommodations can have, it is of paramount importance to consider their perceptions of testing accommodations.

Literature on Student Perceptions of Extended Time

In the postsecondary education setting, students' perceptions of testing accommodations are important and have been the topic of several research studies. Some studies have interviewed students with disabilities about accommodations, some have given students surveys or questionnaires, and others a combination of the two. Overall, research has indicated that students perceive testing accommodations, particularly extended time, as having a positive impact on their testing experience (e.g., Bolt et al., 2011; Kurth & Mellard, 2006; Lovett & Leja, 2013). However, the literature also suggests that students experience obstacles (e.g., social ramifications, instructor-related difficulties) that impact the extent to which they use their accommodations. Given the impact that students' perceptions can have on their use of accommodations, it is important to examine the existing, and rather limited, literature on students' perceptions of testing accommodations.

Notably, a study by Lang and colleagues (2005) utilized questionnaires to examine the perceptions of fourth- and fifth-grade students with and without disabilities. Following the completion of a large-scale achievement test, students filled out a questionnaire that asked them to identify the effects of testing accommodations on their comfort level, interest, motivation, frustration level, and ability to demonstrate their knowledge. Results from the questionnaire indicated an overall preference for the accommodated testing condition as compared to the standard condition. This was true for students both with (46%) and without (39%) disabilities.

Students with disabilities also reported that they felt the test was easier (62%) and that they were better able to show what they knew when provided accommodations (36% for math, 43% for reading). Additionally, many students with disabilities (46%) indicated that they felt more comfortable when they took the test with accommodations, a finding consistent with results from other studies (Lovett & Leja, 2013).

A follow-up study by Lang, Elliott, Bolt and Kratochwill (2008) examined the effect of testing accommodations on students' test performance, and the relationship between students' performance and their perceptions of testing accommodations. Similar to the previous study (Lang et al., 2005), fourth- and eighth-grade students with and without disabilities completed questionnaires about their perceptions of accommodations after finishing standardized reading and mathematics assessments. The results from this study indicated that testing accommodations had a positive effect on a majority of the students' test performance; this effect was larger for the students with disabilities as compared to those without disabilities. Specifically, students with disabilities gained an average of 15.54 points on reading and 17.74 points on the math assessment; students without disabilities gained an average of 4.85 points on reading and 7.99 points on math. Additionally, with regard to their perceptions, many students (43%) indicated that they preferred the accommodated condition, reporting that the accommodations made them feel "less stupid" and "more confident" (Lang et al., 2008, p. 121). Contrastingly, those who did not prefer the accommodation condition reported that the accommodations were unnecessary or distracting and made them feel "dumb" (Lang et al., 2008, p. 121). Moreover, in line with findings from other studies (e.g., Elliott & Marquart, 2004; Sokal & Desjardins, 2016), students expressed that they often did not use their accommodations, such as extended time, but that they still preferred the accommodated condition as it allowed them to relax and feel less pressure

when taking the test. Given these findings, the researchers highlighted the importance of considering both the positive *and* negative effects that testing accommodations pose on students' perceptions and self-efficacy.

Perceptions of Postsecondary Students

In contrast to the first two studies (Lang et al., 2008; Lang et al., 2005) that examined the perceptions of elementary and middle school students, the remaining studies investigated postsecondary students' perceptions of extended time accommodations, a primary focus of the current study.

Bolt and colleagues (2011) surveyed college students (*N*=55) on their perceptions of and experiences with accommodations in both high school and college. Students were asked to rate the extent to which they used each accommodation (always, often, sometimes, rarely) and the perceived helpfulness of the accommodation (very helpful, helpful, somewhat helpful, not helpful). In general, students primarily reported that they "often" use their accommodations and that they find them "helpful" (Bolt et al., 2011, p. 170). Out of the accommodations the students reported having used, extended time was among the highest rated for helpfulness, a finding that is consistent across studies. In particular, results of one study indicated that 72% of participants, 98% of which received extended time, described accommodations as either "extremely helpful" or "very helpful" (Sharoni & Vogel, 2007). Moreover, Bolt and colleagues (2011) also asked students questions related to their experiences with accommodations, including what factors they considered to hinder their accommodation use. After system-level issues (e.g., need for diagnosis/documentation), students most frequently (20%) identified themselves as a barrier to utilizing accommodations (e.g., embarrassment, failure to advocate). Students (17%) also identified others, primarily instructors, as having hindered them from using their

accommodations (e.g., lack of understanding, unwillingness to provide). These results support previous research findings (e.g., Kurth & Mellard, 2006; Marshak et al., 2010); therefore, the researchers recommended that institutions work to develop more effective communication about accommodations to instructors in order to facilitate better and more appropriate use of testing accommodations.

In another study, Kurth and Mellard (2006) used surveys and focus group interviews to examine college students' perceptions of testing accommodations. Students (N=108), all of whom were registered with their institution's DSO, were asked to rate the effectiveness of accommodations they received. Of these, they considered extended time to be the most effective, with 88% of students finding it useful. This is also commensurate with findings from subsequent studies (e.g., Bolt et al., 2011; Sharoni & Vogel, 2007). Additionally, during focus group interviews, students were asked about any obstacles they had faced in receiving or utilizing their accommodations. Commonly reported issues included the desire to feel a sense of belonging (e.g., peer acceptance), difficulties with instructors (e.g., lack of knowledge in how to provide accommodations, resistant to provide), and discrimination of disabilities (e.g., desire to be included as a normal student, teachers do not agree with diagnosis).

Due to their prevalence in previous studies, Marshak and colleagues (2010) investigated barriers that prevent college students with disabilities from seeking or utilizing their testing accommodations. Different from many of the other studies that used questionnaires, the researchers conducted semi-structured interviews with 16 college students registered with the institution's DSO. Through the use of an editing analysis style, student responses were grouped into one of five categories of barriers: identity issues (e.g., desire for self-sufficiency), desire to avoid negative social reactions (e.g., not wanting to be singled out), insufficient knowledge (e.g.,

lack of knowledge of disability or available services), perceived quality and usefulness of services (e.g., lack of compatibility with accommodations), or negative experiences with professors (e.g., did not believe student had a disability). Of these, identity issues and negative experiences with instructors were most frequently reported as barriers that prevented the students from seeking or utilizing their testing accommodations. This is also commensurate with the findings from Kurth and Mellard's (2006) study.

Building on the work of Marshak and colleagues (2010), Lyman and colleagues (2016) also examined the barriers that students with disabilities face in using accommodations in postsecondary education. The researchers conducted one-on-one, semi-structured interviews with college students (*N*=16) who had identified as having faced barriers using their accommodations. Analyses of the interviews resulted in six main themes, five of which are the same as the themes identified in Marshak and colleagues' (2010) study, and one that had not been identified previously in the literature: fear of future ramifications. Specifically, a number of students reported fears that their accommodations would impact them in the future, such as that their disability status may be on their transcript, instructors would not write as strong of letters of recommendations, and accommodations may impede their ability to develop skills (e.g., writing, working quickly). For many of these students, future ramifications were important factors in deciding whether to use their accommodations. Additionally, many students also indicated that they had at one point chosen to forgo use of accommodations rather than burden professors or DSPs. These students reported that they felt like it was "asking too much of professors" (Lyman et al., 2016, p. 128) when they requested accommodations. In general, however, students in this study primarily identified themselves as barriers to using accommodations (e.g., self-sufficiency, desire not to burden others). Given this finding, the researchers recommended that DSPs and

instructors increase their efforts to eliminate these potential barriers so that students with disabilities will be more likely to advocate for themselves and use the accommodations that they are entitled.

Summary of the Literature

Overall, research has indicated that students with disabilities perceive testing accommodations as having a positive impact on their testing experience. Notably, students report that accommodations reduce their anxiety and make them feel more relaxed, allowing them to better focus on the test. This is consistent with the purpose of testing accommodations; by removing irrelevant factors (e.g., time limits, distractors), accommodations enable students to demonstrate their true potential (Lovett & Leja, 2013). Despite the reported benefits of accommodations, students with disabilities also indicated facing obstacles to requesting and utilizing their accommodations. Namely, students reported that factors such as a desire for self-sufficiency, negative experiences with instructors, and a desire to avoid social stigmatization were important considerations in deciding whether or not to use their testing accommodations.

Those involved in making accommodation decisions (e.g., psychologists, DSPs) and those who directly interact with students regarding accommodations (e.g., instructors, DSPs) must be made aware of the influence that students' perceptions of testing accommodations have on their use of accommodations. Notably, students in postsecondary education must take the initiative to seek and request accommodations, and their perceptions about their usefulness is likely to influence which, if any, accommodations they use when taking a test (Lovett & Leja, 2013). Thus, DSPs, psychologists, and instructors should recognize the factors that influence students' use of accommodations, consider their perceptions when making accommodation

decisions, and acknowledge the substantial role that testing accommodations have on academic success (Kim & Lee, 2016).

Although the existing literature provides beneficial information about postsecondary students' general perceptions of testing accommodations, many are limited in the amount of detail and information received through surveys and questionnaires (e.g., Bolt et al., 2011; Lang et al., 2005). Even though more recent researchers conducted interviews with students, allowing for more open-ended responses, these studies (Lyman et al., 2016; Marshak et al., 2010) primarily focused on barriers to using accommodations. Additionally, the existing research also suggests a need to investigate accommodation use with more specificity (Lyman et al., 2016). For instance, it may be beneficial to focus on a specific testing accommodation (e.g., extended time, reduced distraction environment). This would allow researchers to hone in on the particular factors (e.g., disability type, test format) impacting students' use of the accommodation. Conducting such a study would require a closer examination of numerous variables; however, the findings could provide DSPs and students with disabilities with invaluable information that may help them to decide if and when to use a particular accommodation, a provision that could increase student's future academic success.

Current Study

The purpose of this study was to examine the perceptions of extended time use among postsecondary students who were both registered with the university's DSO and approved for extended time (50%, 100%) on tests as an accommodation. The researchers utilized a semi-structured interview format, which ensured that all topics were covered with each participant and encouraged open-ended responses (Marshak et al., 2010). This enabled the researchers to better

explore students' perceptions of testing accommodations, especially those related to extended time. In particular, the study examined the following research questions:

1. How do students positively and negatively perceive their extended time accommodation?
2. What course(s) (e.g., math, English) and test format(s) (e.g., written essay, multiple choice) do students report using a greater amount of their extended time?
3. What other variables (e.g., instructors, peers, diagnoses) impact the extent to which students use their testing accommodations?

CHAPTER TWO

METHOD

Participants

This study was conducted at a large, public university in the Southeastern region of the United States. A purposeful sampling design was utilized through working in conjunction with the university's DSO. Recruitment letters were sent via email twice to all undergraduate students registered with the DSO. The letter described the purpose of the study and indicated that prospective participants were required to have used their extended time accommodation within the past semester. Students were asked to sign up for an interview slot through an online scheduling website, using the last four digits of their student identification number.

The interviewed group consisted of 21 undergraduate students with disabilities (see Table 2.1). The sample included students ranging in age from 18 to 26 (M=21) years. Approximately 52% of participants were female, 43% male, and 5% other. Disability types as reported by the participants included ADHD (n=9), learning disabilities (math, reading, and writing) (n=6), psychological disorders (e.g., generalized anxiety disorder) (n=10), acquired brain injuries (n=3), mobility disorders (n=1), sensory disorders (e.g., visual impairment) (n=3), and systemic disorders (e.g., arthritis) (n=2). Additionally, 47.6% (n=10) of students reported to have comorbid disorders (i.e., two or more diagnoses).

Procedures

Data were collected through one-on-one interviews with the 21 participants. A semi-structured interview guide was developed by two of the researchers. The guide consisted of

twelve questions that were to be asked of each participant, and researchers were encouraged to ask follow-up questions when necessary. The three researchers individually interviewed the participants, with each interview lasting an average of 14 minutes (range: 3:53-25:55 min.). Each interview was audio-recorded and later transcribed for data analysis.

During interviews, participants were asked a series of questions about their perceptions of their extended time accommodation (see Appendix A). Questions addressed topics such as the positive and/or negative impacts, how often they think they use the entirety of extended time allotted, and what, if any, test-taking strategies they have been taught to use during testing. Based on the insights gained from these interviews, a number of common themes emerged.

Participants were also prompted to complete a demographics form prior to the interview. Questions included the student's gender, age, major, primary and secondary disabilities, and approved testing accommodations. No direct identifiers (name, email address, student numbers, or codes) were collected as part of the interview and survey data. Following completion of the interviews, participants were compensated $25.

Data Analysis

An editing analysis style was used to interpret the qualitative data (i.e., transcripts) in search of meaningful fragments. Fragments were reviewed to develop a categorization scheme and matching codes. The codes were then used to sort the qualitative data so that structures and patterns could be sought to better understand the thematic categories (Marshak et al., 2010).

Multiple researchers were involved in order to reduce the possibility of interpreter bias. In the initial stage of the analysis, three researchers independently reviewed the transcripts to decipher the core meaning of each response (i.e., decoded) and derive preliminary codes (Saldana, 2009). Final, more succinct, codes were then developed from preliminary codes. At

this point, final codes existed for eleven categorical themes. The researchers then collaborated to synthesize final codes and identify sub-categorical themes (e.g., *always* uses all extended time provided, *never* uses any extended time provided) for the categorical themes. Each sub-category was assigned a numerical code. Next, the researchers independently reviewed the transcripts to assign the appropriate numerical code for the final codes (i.e., encoded) and identified any notable statements (Saldana, 2009). The researchers then communicated to synthesize and agree upon numerical codes. A total of seven categories and an average of three sub-categories were agreed upon by the researchers. Lastly, one researcher then combined coding data in order to identify and extract sub-categorical data and notable quotations.

Table 2.1
Participant Demographic Information

Participant	Age	Gender	Self-Reported Disability
1	23	Male	Acquired Brain Injury
2	22	Male	Learning Disability, ADHD, Depression, Anxiety
3	21	Male	Acquired Brain Injury
4	19	Other	Vision Disorder
5	26	Male	ADHD, Anxiety
6	21	Male	ADHD (inattentive), Dysgraphia, Dyslexia
7	19	Male	ADHD, Mood Disorders
8	20	Female	Generalized Anxiety Disorder, Depression
9	23	Male	Dyslexia, ADHD
10	21	Female	Anxiety, Post-Traumatic Stress Disorder, Obsessive-Compulsive Disorder
11	20	Female	ADHD, Anxiety, Depression
12	20	Female	Anxiety
13	21	Male	Dysgraphia, Sensory Integration Disorder
14	21	Female	Anxiety, Panic Disorder
15	21	Female	ADHD, Anxiety, Arthritis
16	21	Female	Anxiety
17	18	Female	ADHD
18	21	Female	Brain Tumor, Learning Disability (reading), Fibromyalgia
19	21	Female	Spinal Cord Injury
20	22	Female	Vision Disorder
21	20	Male	Dyslexia, ADHD

CHAPTER THREE

RESULTS

Semi-Structured Interview Analysis

Analysis of interviews revealed seven categories related to students' perceptions of extended time accommodations (see Appendix B): (a) frequency and usage, (b) factors impacting usage, (c) approach to test-taking, (d) benefits of extended time, (e) benefits of reduced-distraction testing environment, (f) negative consequences of extended time, and (g) obstacles to obtaining and utilizing extended time. As subsequently exhibited, several categories are also comprised of sub-categories which provide additional detail on student perceptions.

Frequency and Usage

When asked how often students feel they use the entirety of extended time allotted, 38% (*n*=8) reported they always or almost always use all of their extended time, 33.3% (*n*=7) said they sometimes do, and 28.6% (*n*=6) rarely or never use it all. Of those that always or sometimes use the entirety of their extended time, 53% (*n*=8) stated they occasionally need more time than allotted. The extent to which students reported they always, sometimes, or rarely (never) use their extended time is presented in Table 3.1. The table also illustrates extended time usage by disability group. Notably, 50% (*n*=3) of students with a self-reported diagnosis of a learning disability, 56% (*n*=5) of those with ADHD, 67% (*n*=2) of students with an acquired brain injury, and 100% (*n*=2) of those with self-reported systemic disorders indicated they almost always use the entirety of extended time allotted. In contrast, 67% (*n*=2) of students with a sensory disorder and 100% (*n*=1) of those with a mobility disorder reported they sometimes use all of their

extended time, and 40% (*n*=4) of students with a self-reported diagnosis of a psychological disorder indicated they rarely or never use the entirety of extended time allotted.

Factors Impacting Usage

Responses varied when asked what factors impact students' extended time usage. According to their responses, four sub-categories emerged: (a) test format, (b) test subject, (c) intended test length, and (d) intrapersonal characteristics.

Test format. Students attributed the amount of time they spend on a test to the format. Specifically, students reported using more extended time on essay or writing intensive (*n*=10), computerized (*n*=9), and short answer (*n*=9) tests. Additional formats included reading intensive (*n*=5), multiple-choice (*n*=2), and tests requiring handwritten computational work (e.g., computer science coding) (*n*=2). It is important to note that there is an overlap in the types of formats identified as impacting usage because some students reported more than one format type.

Although two students reported they spend more time on tests requiring handwritten responses, others explained that it is not the physical aspect as much as it is the process of writing that takes time; that is, formulating their thoughts and articulating those on paper. For example, one student with comorbid ADHD and psychological disorders commented on her difficulties writing essays:

> I have all the ideas, and I could write you a great outline, but putting it in an essay format, which is what they want, is just what's so hard for me to do most of the time. It just takes me longer.

Similarly, when one student was asked why he spends more time on essay tests, the student responded, "I know the material I'm going to be tested on, I know what I should've studied, but still just formulating these thoughts and getting them down on paper, to me, is something I

struggle with." Additionally, students also commonly reported they use more of their extended time on computerized tests. Many indicated they prefer to be able to mark on their test, such as underlining important terms and circling and crossing out answer choices. Without the option to do so increases test time, according to students. Notably, one student expressed:

> Computer takes a lot longer…I can't take a pencil and just like reread it through and keep it all organized. I start mixing up the sentences, so then I'll skip a sentence and then go back, and I have to reread the sentence anyways, about three or four times. It's a lot easier follow with a pencil.

Test subject. Although no students reported the subject of the test as having an impact on their extended time usage, all but three students indicated differences among subjects when asked explicitly. Notably, nine students reported they spend more time on quantitative tests (e.g., calculus, computer science), eight stated physical and life sciences (e.g., chemistry, physics), six reported humanities and literature tests (e.g., English, history), three indicated business (e.g., accounting, marketing), and one reported engineering tests.

Intended test length. Seven students attributed the amount of time they spend on a test to its intended length (i.e., how much time the professor envisioned a test to take). Students reported they may not use any of their extended time on a test that only takes the other students one-fourth (e.g., 15 min.) of the class time, but the instructor still allows everyone to use the entire class period to take the test (or quiz). In this case, students approved for extended time may spend double the time of their classmates on the test, but still not technically use any of their extended time.

Intrapersonal characteristics. Regardless of test format, subject, or length, eight students attributed the amount of extended time they use to perceived abilities. In particular, five

students indicated they spend less time on a test when they are adequately prepared. Of these, a few students reported that they use little, if any, of their extended time when they studied more than usual, whereas others indicated confidence in their abilities. For instance, a student expressed, “I think I'm pretty smart. So, I usually can get done early…I don't need all the time.”

In contrast, three students indicated that their extended time usage is impacted by the presentation or symptoms of their disability (e.g., anxiety, distractibility). One student stated, “My disability isn't something that it affects me all the time, but it is nice for the times that it does affect me negatively,” meaning that she utilizes a greater amount of her extended time in situations where her symptoms are present. Similarly, a student with ADHD attributed her usage to deficits related to her disability, coupled with test format. She indicated, “I have a slow processing speed and slow reading speed, so if there's a lot more reading, I'm gonna take more time. Or if there's more complicated steps, I'm gonna take more time.”

Approach to Test-Taking

When questioned whether students have ever been taught or have adopted any testing strategies, several mutual sub-categories emerged.

Skip and return. Of the 21 participants, eleven reported that they skip difficult or unknown questions and return to them once they have completed the remaining items. Several elaborated, stating that this ensures they do not spend too much time on one question. For example, one student explained, “If I get stuck on a question, I try not to get fixated on it and instead I kind of write a star next to it and try to get through the whole test.” Similarly, another student described his self-taught approach to time management during testing:

> If it's taking me more than 30 seconds…I just skip it, go to the next one, and I go through the entire test like that. Then by the time I get through…I'll be able to take whatever time

I've saved to be able to focus on those problems…Oftentimes the extra time then helps me, gives me time and confidence to be able to work through it.

Initial steps. Other students reported they write down key points (*n*=3) and preview the entire test (*n*=4) before reading the first question. Among those who reportedly write down key points at the start of the test, students explained that they immediately write "a series of things that [they] know [they are] gonna struggle to remember" when they receive the test. Moreover, students who reported previewing the test explained that it helps them better allocate their time depending on the length and format. One student described his rationale, "I'll skim the test to see roughly how many questions there are, or what all the format things are. Partly for timing, partly just…to see like, 'Okay, what's gonna come up? Oh, I'm gonna have an essay.'"

Benefits of Extended Time

All 21 participants reported positive impacts of extended time accommodations. Three students simply stated, "it has been helpful," but all others indicated what they perceive as the most notable benefits of extended time on tests. Of their responses, three common sub-categories emerged: (a) reduced anxiety, (b) opportunity to demonstrate true abilities, and (c) improved grades.

Reduced anxiety. Six students, both with (*n*=3) and without (*n*=3) a diagnosed anxiety disorder, indicated that extended time gives them a sense of comfort in knowing they have more time should they need it. For instance, a student with comorbid psychological disorders noted, "It makes me feel better knowing that I have more time even though I'm probably not going to use it." Although they may not necessarily use all of their time, knowing that they can makes them feel less rushed and reduces their anxiety during testing. Another student recounted similar feelings:

> I feel like the best reason for having the extra time for me, I don't think I usually really go over the normal test time at all, but it's just that like knowing that I have that extra time helps a lot with like being anxious about having to finish. So, I can just take my time.

Students (*n*=5) also reported that they feel less rushed and anxious because they are not in the classroom with other students taking the same test and thus do not see others turn in their test before them. Even if they are able to finish a test within the standard class-time, knowing that others are finishing before them causes a lot of worry. Namely, when discussing how he feels taking a test in the classroom, one student explained, "Whenever I take a test, I feel kind of rushed because I feel like I have to kind of finish on time with everyone else."

Opportunity to demonstrate true abilities. Several students (*n*=3) reported they appreciate that extended time provides them with an opportunity to demonstrate their true knowledge and ability. They explained that they are well-prepared and understand the material, it just takes them longer to read and process questions and formulate and execute responses. As an illustration, a student with ADHD and a psychological disorder stated:

> It's not that I can't do the work, I consistently do the work, it just takes me longer. It allows me, I feel like, to showcase the abilities I do have, that just take a bit more time than the average person.

Additionally, other students (*n*=4) explained the additional time enables them to take a break if needed. These students indicated that they often become anxious during tests, hindering their ability to think. That is, they have the knowledge to adequately answer the questions, but they cannot exhibit it as well when they are stressed or anxious. For instance, one student with comorbid psychological disorders commented, "I'm getting more time to use the knowledge I

have. So, having that extra time to take a lap [and] calm down, I can perform just like other students."

Improved grades. Nine students attributed extended time as having a positive impact on their academic performance. This was true for those who entered college already approved for testing accommodations, as well as those whom sought accommodations after a year or more in college. In reference to the former, a student described what may have happened had she not used extended time when she began college: "I would probably have failed some of the classes because I wouldn't have been able to answer the questions in time without it." Similarly, another student shared her experiences both before and after receiving extended time accommodations:

> I've seen a huge improvement in my grades. The semester before I took tests at the [DSO], I was at the worst level of anxiety and I failed almost every other test. I haven't failed a test through taking it at the [DSO] yet.

Students went as far as saying that extended time has made a profound difference in their academic career. Namely, when asked if she had any additional comments to share about her experiences with having an extended time accommodation, a student responded, "I think it's definitely one of the things in my college career that's helped me the most." Several other students shared similar remarks.

Benefits of Reduced-Distraction Testing Environment

Although not a primary focus of the study, students also reported benefits of taking tests outside of the classroom and in a reduced-distraction environment. Commonly reported positive aspects of the test environment included its quietness (n=16), reduced distractions (n=16), absence of classmates (n=5), and availability of white noise machines and/or noise-cancelling headphones (n=7).

Students most frequently shared that they appreciate the reduced noise level and fewer distractions in the DSO. This was true for students of all disability types. Some particularly noted that the noise level in classrooms makes it difficult to focus during tests. For example, recounting his experiences with taking tests in a classroom, one student stated, "there's so many people and there's so many different extraneous factors which can affect test performance." Additionally, students explained that they are easily distracted by what others are doing, especially in a large, lecture-style classroom. Instead of focusing on their test, students often find themselves losing their concentration at any sign of movement (e.g., shifting in seat, turning in test). Namely, a student with a psychological disorder described her experience with taking tests in the DSO as opposed to a classroom: "I'm a lot less distracted because instead of paying attention to what everyone else is doing around me and worrying that I'm not as prepared as them or whatever it may be, I'm just focused on my own."

Negative Consequences of Extended Time

Although all participants reported benefits of extended time, 57.1% (*n*=12) of students also reported negative consequences. Two common consequences included changing answers from correct to incorrect when they have time remaining (*n*=5) and scheduling concerns (*n*=6).

Changing answers. Several students indicated they often check their answers if they have time remaining on their test. More times than not, they reported changing at least one answer to incorrect when it was originally correct. Although most students noted that they do not "blame" the extended time for any points they lost, they may not have had the time to check their answers without it. For instance, one student remarked, "I change my answers a lot. I so many times will change my answer from a correct answer to a wrong answer…It's very frustrating but if I have too much time then I will start second guessing myself."

Scheduling concerns. Many students commented on the difficulties they experience when scheduling tests with the DSO. In particular, extended time places students at risk for arriving late to, or missing, their next class. If they do not have a class before, students reported that they typically request to begin their test early so that they are not late to their next class. For instance, a student stated, "When I have back to back classes, I have to email back and forth with my professor and the [DSO] in order to start a test earlier so that I can make it to my next class on time." Moreover, other students indicated that they do not schedule classes one after another due to extended time, although they wish they could: "I don't always want to schedule three-hour gaps with my classes because if I don't have a test on a day, I want to get those classes done to get started on work."

Obstacles to Obtaining and Utilizing Extended Time

Despite the reported benefits, 100% of students indicated that they have experienced obstacles to obtaining or utilizing their extended time accommodations. Within this larger category, three sub-categories emerged: (a) lack of access to instructor during tests, (b) instructor-related concerns, and (c) social ramifications.

Lack of access to instructor. Students reported that they cannot ask clarifying questions (n=5) and often miss information provided to the class (n=4) when they take their tests at the DSO. Many explained that this has negatively impacted their test grade on at least one occasion. If students have a question while taking a test, they indicated that they ask a DSP to contact their instructor, although a few students in this study did not know that this was permitted. However, students reported that their instructors often do not respond before their testing time is up. For instance, one student described his troubles not being able to access his instructors: "I've had this

problem with multiple classes so far, where a teacher said they'd be available, and they weren't. And I have a pretty important question on the test, and then I don't get that question answered."

Students also reported that they miss information provided to the class because the instructor does not know or remember to notify them in the DSO. This includes information such as clarifying the wording of a question, changing or omitting a question, or providing hints to a difficult question. Notably, a student explained her experience:

> I'll hear from other people in my class that the professor answered a question about something that I wouldn't have thought to ask, but it helps clarify the question. I didn't have the opportunity to hear the professor say that, and sometimes I'll miss the question, but everyone in the class got it because they were there when the professor answered it.

Instructor concerns. Students reported that they have experienced instructor-related obstacles to utilizing accommodations. In particular, they stated that instructors have forgotten to send necessary test materials (e.g., formula sheet) to the DSO, have neglected or forgotten to approve the use of other materials (e.g., calculator, book), or have not extended the time on online tests (n=3) prior to the student taking the test. Additional obstacles reported included having instructors whom have not been willing or were resistant to allow the approved accommodation (n=4) or were unfamiliar with how to provide accommodations (n=2). As a result of her past experiences, one student indicated that speaking with her instructors about accommodations "can be anxiety-inducing because some professors aren't the most approachable."

Social ramifications. Another downside that students noted was negative comments from peers. Several students (n=4) reported that their peers perceive extended time as an unfair advantage. One student even stated he has "been told it's a form of cheating or academic

honesty." Likewise, another student indicated, "any ramification that I've received directly, indirectly, has been somewhere in the realm of, 'it's not fair.'''

A few students also noted that their peers sometimes ask why they were not in the classroom during a test. This then leaves the student to choose between lying to their peer about why they were not present during the test or admitting that they have extended time. If a student chooses the latter, and their peer asks why they have extended time, they may be forced to disclose their disability when they are not prepared or ready to do so. Notably, a student described a common situation she experiences: "Friends are like, 'why do you get extra time?' I'm like, 'I take it somewhere else'…I don't want to tell them about my anxiety."

Table 3.1
Extent to Which Students Reported Using Their Extended Time

Participant	Self-Reported Disability	Always/ Almost Always	Sometimes	Rarely/Never
1	Acquired Brain Injury	X		
2	Learning Disability, ADHD, Depression, Anxiety		X	
3	Acquired Brain Injury			X
4	Vision Disorder		X	
5	ADHD, Anxiety		X	
6	ADHD, Dysgraphia, Dyslexia	X		
7	ADHD, Mood Disorders	X		
8	Generalized Anxiety Disorder, Depression	X		
9	Dyslexia, ADHD		X	
10	Anxiety, Post-Traumatic Stress Disorder, Obsessive-Compulsive Disorder			X
11	ADHD, Anxiety, Depression			X
12	Anxiety		X	
13	Dysgraphia, Sensory Integration Disorder			X
14	Anxiety, Panic Disorder			X
15	ADHD, Anxiety, Arthritis	X		
16	Anxiety			X
17	ADHD	X		
18	Brain Tumor, Learning Disability, Fibromyalgia	X		
19	Spinal Cord Injury		X	
20	Vision Disorder		X	
21	Dyslexia, ADHD	X		
	Total (*n*):	**8 (38%)**	**7 (33%)**	**6 (29%)**

CHAPTER FOUR

DISCUSSION

The purpose of this study was to qualitatively examine perceptions of extended time testing accommodations among postsecondary students with disabilities. Overall, reports varied in how often students feel that they use the entirety of extended time allotted, with analogous numbers reporting that they almost always, sometimes, or rarely use all of their extended time. The results also varied across disability groups. Moreover, the results indicated that test format has the greatest impact on extended time usage. Students frequently reported using more of their extended time on writing intensive tests (e.g., essay, short answer). This suggests that students spend more time on tests requiring mental planning and organization and motor output. Students also commonly reported spending more time on computerized tests. This may be due to the inability to write on their tests or limited experience with computerized assessments. Additionally, students indicated that they spend more time on quantitative (e.g., calculus, computer science) and science (e.g., chemistry, physics) tests, which they ascribed to the difficulty of the material and complexity of the test. Regardless of the test format and subject, students also attributed their extended time usage to intrapersonal characteristics, such as test preparation, confidence in abilities, and disability symptom presentation (e.g., anxiety, distractibility).

With regard to testing strategies, the majority of students reported that they have never been taught testing or time management strategies but have learned some through experience. Namely, most students indicated that they skip difficult or unknown questions and return to them

once they have completed the remaining items. Students also reported that they sometimes change answers from correct to incorrect when they have time to check their answers. Thus, it is possible that extended time accommodations could negatively impact test scores, which is contrary to their intended purpose. Similar to Hamblet's (2014) recommendations, these findings suggest that students with disabilities would benefit from instruction on effective use of their extended time.

The obstacles students face in obtaining and utilizing their extended time accommodations have been well documented in the literature (e.g., Lyman et al., 2016; Marshak et al., 2010). The current study resulted in similar findings, as students indicated that they have experienced instructor- and peer-related concerns. In terms of instructors, students reported that they cannot ask clarifying questions and miss out on information provided to the class when they take tests in the DSO. Others reported that their instructors have forgotten to send or approve necessary test materials or were resistant or not willing to allow their approved accommodation. As Marshak and colleagues (2010) emphasized, these findings are especially valuable for DSPs and instructors. Oftentimes, students at the postsecondary level must directly communicate with their instructors to request and/or discuss the logistics (e.g., time and location of test, materials to approve) of their accommodations; thus, students' perceived willingness of instructors to grant accommodations undoubtedly impacts whether they request accommodations for a test (Lyman et al., 2016). In turn, this highlights the importance of ensuring that instructors understand their role in the accommodation process and the impact they may pose on their students.

Students also indicated that they face peer-related obstacles due to their testing accommodations. Notably, peers question their extended time accommodation by stating that it is an unfair advantage or asking why they do not take tests in the classroom. Students with

disabilities, especially those in college, value their social identity and do not want to be singled out or labeled because they have accommodations (Marshak et al., 2010). Testing accommodations serve to benefit students, not subject them to additional complications in academics or social interactions. Although students indicated that these obstacles have not significantly hindered them from utilizing their accommodations, this may eventually lead them to underutilize or stop using them altogether. Therefore, it is important that DSPs and others involved are conscious of the obstacles that students face in obtaining and utilizing accommodations in order to make efforts to ameliorate potential barriers in the future. Additionally, DSPs can help by educating students with disabilities about how to advocate more effectively for accommodations and how to explain their need for accommodations when they are faced with such barriers (Lyman et al., 2016; Marshak et al., 2010).

Despite obstacles they may face, all of the students in the study reported positive impacts of extended time accommodations. Many indicated that they benefit more from *knowing* they have additional time than they do from actually utilizing the additional time. This finding is commensurate with findings from previous studies (e.g., Elliott & Marquart, 2004; Sokal & Desjardins, 2016), which indicated that extended time may help to reduce students' anxiety, increasing their ability to focus and complete the test at a faster pace. For these students, extended time primarily provides psychological support rather than additional time to complete their test. It is important to highlight this finding because testing space is limited due to the vast number of students registered with postsecondary DSOs. As a result, students are sometimes turned away if they fail to request accommodations far in advance of the test date. In cases where students use little, if any, of their extended time, their seat at the DSO is left unoccupied for the

remaining duration. This information is valuable for DSPs, as changes could be made with regard to allocating testing spaces, resources, and services.

Overall, students indicated that extended time enables them to perform to their highest potential and demonstrate their true abilities. By reducing their anxiety and providing additional time to demonstrate their knowledge, extended time not only can positively impact students' academic performance (e.g., GPA) but also their emotional well-being.

Limitations

As with any study, it is important to consider the limitations. The students in the current study's sample were attending a large, public, academically high-end, Southeastern university, which may affect the generalizability of the results. The results are also limited due to the use of purposive sampling procedures. The researchers were selective in recruiting study participants and restricted the sample to undergraduate students who were registered with the university's DSO and had used their extended time accommodation within the past semester. Although these inclusionary criteria may have led to a more restricted sample, they were also advantageous in that they permitted the study to address a specific population of students approved for extended time accommodations.

Another limitation of this study was that interviews were conducted on a voluntary basis, so the voices of those students who chose not to participate were not heard. It may be that only students with particularly positive or negative experiences chose to participate. Finally, the purpose of this study was to collect and analyze information about students' experiences and perceptions; thus, the researchers relied on student self-report for their demographic information and interview responses. Students may have inaccurate memories or may have distorted some

information. Though student reports can provide unique and valuable perspectives, it is important to consider these limitations when interpreting results (Bolt et al., 2011).

Implications for Practice and Future Research

The study's findings offer DSPs, instructors, and psychologists valuable insights into the perceptions that students have about accessing and utilizing their extended time accommodations. Since the onus is on the student to seek appropriate accommodations in college, it is imperative that those involved are conscientious of students' perceptions about testing accommodations and make concerted efforts to ameliorate potential barriers in the future. DSPs should ensure that students understand that they should communicate any obstacles they face, whether they are related to instructors, peers, or other factors.

The findings may also benefit DSPs in allocating resources related to testing services. Due to the steady increase in the number of students registered with college DSOs, testing space is often limited. In order to ensure efficient utilization of their space, DSOs could monitor the average proportion of extended time each student uses. Sokal and Vermette (2017) also recommend that DSPs meet annually with students to reevaluate the need for extended time. For those who never or rarely use any of their extended time but benefit psychologically, it could be reduced from time and a half (50%) to time and a quarter (25%). Doing so would free up resources for others, while still providing the student with the psychological support of having additional time should they need it. Moreover, this finding is also relevant for psychologists in determining the amount of extended time students need. Based on results of the comprehensive evaluation combined with information obtained via student interviews, psychologists should consider recommending time and a quarter for students who may not need more than that. Although it is beyond the scope of this study, the amount of time they recommend could be

established based on students' cognitive abilities (e.g., processing speed), academic fluency scores, functional impairment(s) as a result of their disability, and history of using an extended time accommodation, when applicable.

The finding that students have received limited instruction on test-taking strategies is alarming. This could be addressed in a variety of ways. The DSO could offer workshops that explicitly teach students learning, test-taking, organizational, and time management strategies (Hamblet, 2014) or provide registered students with a list of key strategies at the start of each semester and remind students that they may request additional assistance. Likewise, psychologists could also include test-taking strategies in their diagnostic recommendations. Understanding how to effectively utilize and manage their extended time may provide students with more time to focus on difficult questions after they have answered the others or to plan and organize their thoughts for an essay. Not only can effective test-taking strategies increase their test scores, they can also enhance students' self-confidence in their abilities.

The results of this study also have implications for educating college instructors, administrators, and postsecondary students with and without disabilities. It is possible that the high number of negative experiences and obstacles students reported having faced with instructors and peers could be mitigated by educating instructors about disability legislation, students with disabilities, and accommodations (Lyman et al., 2016). Notably, qualified staff could develop an online training program to educate instructors on these topics, explain their role in providing accommodations (e.g., send test materials to the DSO in advance of the test), and highlight key factors to remember during test administration (e.g., communicate information provided to the class, be available to answer questions during the scheduled test time). If instructors are made aware of the ways that they create obstacles and how to eliminate (or at

least minimize) them, students may be more likely to approach them about their accommodations (Lyman et al., 2016).

Although the current study provides critical information regarding student perceptions of extended time accommodations, further research is needed in several areas. Namely, it would be beneficial to examine whether the results vary as a function of other factors such as gender, minority status, and class level (e.g., first year, second year). Additional studies should also include a greater number of participants to determine whether there is a relationship between disability type and extended time usage. It would also be advantageous to examine data on the extended time usage of postsecondary students, in addition to their perceptions. Moreover, the results of this study also suggest that it could be beneficial to examine cognitive (e.g., processing speed, working memory) and academic fluency scores as they relate to the amount of extended time used. This information could be critical in understating other factors that may affect students' extended time usage and may benefit DSPs and psychologists in determining the amount of extended time warranted for students with disabilities, on a case-by-case basis.

REFERENCES

Bolt, S. E., Decker, D. M., Lloyd, M., & Morlock, L. (2011). Students' perceptions of accommodations in high school and college. *Career Development for Exceptional Individuals*, *34*(3), 165-175. doi: 10.1177/0885728811415098

Bolt, S. E., & Thurlow, M. L. (2004). Five of the most frequently allowed testing accommodations in state policy. *Remedial and Special Education*, *25*, 141-152.

Cawthon, S. W., & Cole, E. V. (2010). Postsecondary students who have a learning disability: Student perspectives on accommodations access and obstacles. *Journal of Postsecondary Education and Disability*, *23*(2), 112-128.

Cole, E. V., & Cawthon, S. W. (2015). Self-disclosure decisions of university students with learning disabilities. *Journal of Postsecondary Education and Disability*, *28*(2), 163-179.

Elliott, S. N., & Marquart, A. M. (2004). Extended time as a testing accommodation: Its effects and perceived consequences. *Exceptional Children*, *70*, 349-367.

Feldman, E., Kim, J., & Elliott, S. N. (2011). The Effects of accommodations on adolescents' self-efficacy and test performance. *Journal of Special Education*, *45*(2), 77-88. doi: 10.1177/0022466909353791

Fuchs, L. S., Fuchs, D., Eaton, S. B., Hamlett, C. L., & Karns, K. M. (2000). Supplementing teacher judgments of mathematics test accommodations with objective data sources. *School Psychology Review*, *29*, 65-85.

Greenberg, D. (2017). Technical report: Overview of disability law for higher education. *National Center for College Students with Disabilities*.

Hamblet, E. (2014). Nine strategies to improve college transition planning for students with disabilities. *TEACHING Exceptional Children, 46*(3), 53-59. doi: 10.1177/004005991404600306

Jansen, D., Petry, K., Evans, S. W., Noens, I., & Baeyens, D. (2018). The implementation of extended examination duration for students with ADHD in higher education. *Journal of Attention Disorders*. doi: 10.1177/1087054718787879

Kim, W. H., & Lee, J. (2016). The effect of accommodation on academic performance of college students with disabilities. *Rehabilitation Counseling Bulletin*, *60*(1), 40-50. doi: 10.1177/0034355215605259

Kurth, N., & Mellard, D. (2006). Student perceptions of the accommodation process in postsecondary education. *Journal of Postsecondary Education and Disability*, *19*(1), 71-84.

Lang, S. C., Elliott, S. N., Bolt, D. M., & Kratochwill, T. R. (2008). The effects of testing accommodations on students' performances and reactions to testing. *School Psychology Quarterly*, *23*, 107-124. doi: 10.1037/1045-3830.23.1.107

Lang, S. C., Kumke, P. J., Ray, C. E., Cowell, E. L., Elliott, S. N., Kratochwill, T. R., & Bolt, D. M. (2005). Consequences of Using Testing Accommodations: Student, Teacher, and Parent Perceptions and Reactions to Testing Accommodations. *Assessment for Effective Intervention,31*(1), 49-62.

Lindstrom, J. (2007). Determining appropriate accommodations for postsecondary students with reading and written expression disorders. *Learning Disabilities: Research and Practice*, *22*, 229-236. doi:10.1111/j.1540-5826.2007.00251.x

Lovett, B. J. (2010). Extended time testing accommodations for students with disabilities: Answers to five fundamental questions. *Review of Educational Research*, *80*, 611-638. doi: 10.3102/0034654310364063

Lovett, B. J. (2011). Extended time testing accommodations: What does the research say? *NASP Communique, 39*, 1-5.

Lovett, B., & Leja, A. (2013). Students' perceptions of testing accommodations: What we know, what we need to know, and why it matters. *Journal of Applied School Psychology*, *29*(1), 72-89. doi: 10.1080/15377903.2013.751477

Lovett, B. J., & Leja, A. M. (2015). ADHD symptoms and benefit from extended time testing accommodations. *Journal of Attention Disorders*, *19*(2), 167-172. doi: 10.1177/1087054713510560

Lyman, M., Beecher, M. E., Griner, D., Brooks, M., Call, J., & Jackson, A. (2016). What keeps students with disabilities from using accommodations in postsecondary education? A qualitative review. *Journal of Postsecondary Education and Disability*, *29*(2), 123-140.

Marshak, L., Wieren, T. V., Ferrell, D. R., Swiss, L., & Dugan, C. (2010). Exploring barriers to college student use of disability services and accommodations. *Journal of Postsecondary Education and Disability*, *22*(3), 151-165.

Raue, K., & Lewis, L. (2011). *Students with disabilities at degree-granting postsecondary institutions*. U.S. Department of Education, National Center for Education Statistics (2011–018).

Rothstein, L. (2004). Disability law and higher education: A road map for where we've been and where we may be heading. *Maryland Law Review*, *63*(1), 122-161.

Saldana, J. (2009). An introduction to codes and coding. In *The coding manual for qualitative researchers* (1st ed., pp. 1-31). London, UK: SAGE Publications.

Sharoni, V., & Vogel, G. (2007). Entrance test admissions, admission and enrollment of students with learning disabilities in teacher training colleges in Israel. *Assessment and Evaluation in Higher Education*, *32*, 255-270.

Sokal, L., & Desjardins, N. (2016). What students want you to know: Promoting achievement in postsecondary students with anxiety disorders. *Journal on Excellence in College Teaching, 27*(3), 349-366.

Sokal, L. & Vermette, L. A. (2017). Double time? Examining extended testing time accommodations (ETTA) in postsecondary settings. *Journal of Postsecondary Education and Disability*, *30*(2), 185-200.

Timmerman, L. C. & Mulvihill, T. M. (2015). Accommodation in the college setting: The perspectives of students living with disabilities. *The Qualitative Report, 20*(10), 1609-1626.

U.S. Department of Education, National Center for Education Statistics. (2016). *Digest of Education Statistics*, *2015* (2016–014).

APPENDICES

Appendix A
Semi-Structured Interview Guide

1. How often, if ever, do you feel you use all of the extended time you are allowed on a test?
2. When you don't use the entire time, why do you think this is?
3. Do you ever feel like you needed more time than allowed on a test, even with your extended time accommodation?
4. Is there a particular subject in which you feel you use a greater amount of your extended time?
5. What about a particular test format, such as a multiple choice or written essay test? Or even one that you take on the computer?
6. Do you have any test-taking strategies that you have been taught or have found to be helpful in using your extended time?
7. What would you say are the benefits of taking your tests in the DSO?
8. Is there anything you do not like about having extended time?

   Any ways in which you think it has ever negatively affected your test grade, such as having time to re-check and change your answers?
9. Have you ever experienced any obstacles to obtaining accommodations for a test? These may include scheduling issues, instructor-related concerns, and/or social ramifications.
10. What are your thoughts on the testing environment, such as the comfort and noise level of the testing rooms?
11. Do you know anything about the process in which you were approved for your extended time accommodation?
12. Is there anything else that you would like to say or share about your experiences with having an extended time accommodation?

Appendix B

Categories Related to Students' Perceptions of Extended Time

Category	**Sub-Categories**
Frequency and Usage	Always or almost always Sometimes Rarely or never
Factors Impacting Usage	Test format Test subject Intended test length Intrapersonal characteristics
Approach to Test-Taking	Skip and return Initial steps
Benefits of Extended Time	Reduced anxiety Opportunity to demonstrate true abilities Improved grades
Benefits of Reduced-Distraction Testing Environment	Quietness Reduced distractions No classmates present White noise machines/headphones
Negative Consequences of Extended Time	Changing answers Scheduling concerns
Obstacles to Obtaining and Utilizing Extended Time	Lack of access to instructor Instructor concerns Social ramifications