ADVOCACY AND ACCOMMODATION PROVISION ACROSS SCHOOL ENVIRONMENTS

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ABSTRACT

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Accommodations serve as a key means of access to academic content for students with disabilities. Experts in the field recommend and educational policy stipulates that, given similar task demands, accommodations provided in one environment should be provided in another. Previous research suggests this may not occur in practice. For the current study, accommodation provision across instructional and testing environments as well as across high school and postsecondary environments was examined using data available from the National Longitudinal Transition Study 2. Analyses were conducted to explore the extent to which parent and student advocacy predicted accommodation provision across these environments, as well as the extent to which continued accommodation provision from high school to college predicted postsecondary education persistence of students with disabilities. Critical findings included identification of limited consistency in the accommodations provided across environments, a lack of significant relationship between advocacy behaviors of interest and accommodation provision across environments, and a lack of significant relationship between continued accommodation provision and postsecondary education persistence. Separate ad-hoc interviews were conducted to obtain qualitative information on student and parent perspectives regarding obtaining disability supports in high school and college. Interviewee responses highlighted a variety of potential reasons for lack of consistency, including the influence of environmental factors and other supports that eliminated the need for accommodations, a lack of student awareness or desire to access disability supports, and students' informal access of supports in certain settings. It also reflected

parents' distal advocacy efforts when students matriculated into college, such as parents encouraging their students to seek disability supports and providing the necessary documentation to access supports. Further exploration of reasons for inconsistent provision is deemed necessary to help understand and seek to improve practices with regard to accommodation provision and use.

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CHAPTER 1

Introduction

The purpose of this study was threefold, and it was informed broadly by ecological systems theory and rooted more specifically in the conceptual framework of self-advocacy. First, I explored trends in accommodation provision in testing and instruction at the high school level as well as trends in accommodation provision across high school and postsecondary education. Second, I investigated the association between advocacy efforts and accommodation provision both within and across academic environments. Third, I investigated the association between continued accommodation provision from high school to postsecondary education and students' postsecondary education persistence. Secondary analysis of data from the National Longitudinal Transition Study 2 (NLTS2; SRI International, n.d.), which surveyed the experiences of students with disabilities across the United States in secondary school and beyond, was used to examine the hypothesized trends and relationships. Qualitative interviews extended the findings of the secondary NLTS2 analysis to more deeply explore the relationship between parent and student advocacy efforts and accommodation provision from high school to postsecondary education.

Background

Education reform of the late 20th century brought with it increased scholastic standards for students with disabilities, with a focus on promoting positive postschool outcomes (Defur, 2002; Thurlow, 2002). These high standards and expectations were emphasized via legislation that mandated the participation of students with disabilities in general statewide accountability assessment programs as well as students with disabilities' participation in the general curriculum to the greatest extent feasible. Currently, the Every Student Succeeds Act (ESSA, 2015) mandates that students with disabilities make sufficient academic growth, measured in part by

yearly statewide accountability assessment programs. Additionally, both special education law (Individuals with Disabilities Education Improvement Act [IDEA], 2004) and disability civil rights law (Section 504 of the Rehabilitation Act of 1973 [Section 504]; 2007) require that students with disabilities have the supports necessary to facilitate access to academic instruction and testing.

In tandem with these legislative mandates, participation in postsecondary education among students with disabilities has increased. In examining national samples of students with disabilities out of secondary school, Newman, Wagner, Cameto, Knokey, and Shaver (2010) found that the proportion of those with disabilities attending postsecondary education institutions increased by approximately 19% from 1990 to 2005. With the rise in postsecondary education attendance by these students, federal policy protecting students with disabilities has become increasingly important to consider. IDEA (2004) and ESSA (2015) do not apply to students with disabilities once they matriculate out of high school; however, two sets of civil rights legislation that continue to protect students with disabilities in postsecondary education environments are the Americans with Disabilities Act Amendments Act (ADA; 2008) and Section 504 (2007). Both sets of legislation require that post-secondary educational environments are accessible to students with disabilities (Shaw, 2009).

Despite the increase in postsecondary education attendance, researchers have suggested that postsecondary education outcomes for students with disabilities have not been particularly positive (Hong, Ivy, Gonzalez, Ehrensberger, 2007). Across several years, students with disabilities have exhibited poorer postsecondary education completion rates compared to nondisabled peers (41% and 52%, respectively; Newman et al., 2011). This likely translates into poor employment outcomes among students with disabilities, with the increasing number of jobs

requiring some sort of postsecondary degree or certification (Carnevale & Desrochers, 2003). Given these outcomes, researchers have argued it is important to know what supports are available to students with disabilities in postsecondary education environments and whether these supports ultimately promote postsecondary education retention and school completion (Newman & Madaus, 2015).

One avenue for potential improvement in the academic success of students with disabilities at both K-12 and postsecondary education levels, is through more consistent provision and use of accommodation supports. Students with disabilities experience unique barriers to their learning and educational success that are due to a combination of their disability characteristics and the specific environmental expectations for learning. For example, a student with a visual impairment may be unable to appropriately access typical written materials; a student with a fine motor impairment may have trouble completing standard writing tasks. Accommodations are special types of supports intended to remove those unique barriers while maintaining the same overall achievement expectations for students with disabilities. Thus, a student with a visual impairment may require large print text to see written materials, and a student with a fine motor impairment may require a keyboard to complete writing tasks. If provided and used appropriately, accommodations should not interfere with the general expectations for student achievement or unduly advantage students with disabilities (Thurlow, 2005). Accommodation use should not make the task itself easier but instead make it easier for the student to engage in the task to the same extent as a student without a disability. Furthermore, accommodations may be necessary and helpful during both instruction and testing, given that barriers that make it difficult for students with disabilities to learn and show what they have learned may be present in both instructional and testing environments.

A growing research base suggests accommodations can be helpful in promoting academic success. For instance, at the K-12 level, accommodations have been shown to improve the achievement test scores of numerous students with disabilities (e.g., Elliot, Kratochwill, McKevitt, & Malecki, 2009; Huynh, Meyer, & Gallant, 2004; Johnson, 2008). Although the literature suggests there is a marked decrease in the use of accommodations from high school to postsecondary education (Newman & Madaus, 2014), accommodation provision has been associated with markers of academic success (e.g., grade point average) for students with disabilities at the postsecondary education level as well (Schreuer & Sachs, 2014). Less research exists on the association amongst accommodation provision and longer-term outcomes, including continued postsecondary education attendance or degree attainment (collectively known as postsecondary education persistence; National Center for Education Statistics [NCES], 2000).

Importance

Although accommodations have been used to support students with disabilities in U.S. school systems for the past few decades, potential problems exist in accommodation use. One problem exists in patterns of accommodation provision. Specifically, provision of accommodations has been inconsistent across environments and limited in certain environments. It is not well understood why incongruities in provision occur or, more importantly, what may facilitate more consistent accommodation provision. Accommodation consistency is defined for the purposes of the current study as receipt of the same accommodation in one type of educational environment (e.g., classroom instruction) and in another educational environment (e.g., accountability testing). Furthermore, the effects of accommodation use in certain environments (e.g., postsecondary education) is less understood than the effects of

accommodation use in other environments. The current study seeks to address these gaps in research, which are discussed in greater detail below.

Inconsistent and limited accommodation provision. It is not well understood whether accommodations are implemented consistently across environments and what factors might contribute to students' consistent use of accommodations. Researchers have noted that accommodations provided in one environment (e.g., instruction) should be provided in another environment (e.g., testing; Ysseldyke et al., 2001), and some have suggested that this consistency may promote student achievement (Cox Herner, Demczyk, & Nieberding, 2006). These recommendations are reflected in many states' educational policies that state the use of instructional accommodations should be taken into consideration when making individual student decisions about accommodations students receive during statewide accountability testing (Christensen, Braam, Scullin, & Thurlow, 2011). Despite policy mandates and research recommendations, limited literature exists on accommodation consistency. Existing research suggests that for certain student samples (e.g., students with deafblindness), accommodation consistency across high school instruction and testing environments may vary (Horvath, Kampfer-Bohach, & Farmer Kearns, 2005).

Findings on the extent of accommodation consistency in K-12 have been mixed, likely due to a combination of different methodologies and student samples. Research has not yet investigated predictors of accommodation consistency across educational environments. The extant research on consistency in accommodation use within high school environments has ranged from examinations of the overall proportion of students who received one or more of the same accommodations during testing as they received during instruction (Ysseldyke et al., 2001) to one-to-one accommodation consistency (i.e., examination of the extent to which individual

students who receive a specific accommodation during instruction also receive that same accommodation during testing; Horvath et al., 2005).

With the increase in the postsecondary education attendance of students with disabilities, and policies protecting the access of these students to postsecondary education environments, it follows that students with disabilities should be provided accommodations in postsecondary education. Procedures for securing accommodations differ across these environments, however, which may influence the extent to which students with disabilities are provided accommodations. In high school, special education procedures are such that IEP team members – including teachers, parents, and ancillary educational staff – determine appropriate accommodations for each student with a disability. Conversely, in postsecondary education, students are required to independently disclose their disability status and seek accommodations from the institution on their own (Shaw, 2009). Regardless of the procedural differences across K-12 and postsecondary education environments, students with disabilities who experience impairments that interfere with accessing educational content should ideally be able to procure accommodations in both high school and postsecondary education.

Recommendations for accommodation consistency from K-12 into postsecondary education have not been as clearly stated in policy. However, it logically follows that the accommodations used by a student in high school would continue to serve as useful supports to students with disabilities who matriculate into postsecondary education environments with similar barriers to instruction and testing. Nevertheless, the literature in this area does not reflect this pattern. Researchers who have examined accommodation provision from high school to postsecondary education report that fewer students received accommodations in postsecondary education compared to high school (Newman & Madaus, 2014).

Given the potential positive effects of accommodation provision on student educational success, it seems important to explore factors that may promote accommodation provision. One factor to consider is advocacy. The Conceptual Framework of Self-Advocacy (CFSA), designed by Test, Fowler, Wood, Brewer, and Eddy (2005) with the needs of students with disabilities in mind, posits that self-advocacy – a subskill of self-determination, which is associated with positive scholastic and developmental outcomes – can be manifested through various student behaviors. For example, a student may self-advocate by asserting oneself through requests for accommodations (Prater, Redman, Anderson, & Gibb, 2014). When students with disabilities are younger, parents may advocate on students' behalf (Bacon & Causton-Theoharis, 2013). However, as students with disabilities get older, self-advocacy may be especially important for securing appropriate academic supports (Walker & Test, 2011; White & Yo, 2006).

Advocacy behaviors can be fostered amongst those invested in the academic welfare of students with disabilities, including the students themselves. Therefore, a potentially important consideration that has yet to be substantially investigated in the research literature is the relationship between student self-advocacy behaviors and accommodation provision, particularly as they relate to consistency in accommodation provision and continued accommodation provision across educational environments. Analyzing these relationships using data from a dataset such as the NTLS2 can provide insight into these relationships at the national level.

Accommodation provision and postsecondary education persistence. It is not well understood whether accommodations are associated with more distal indicators of postsecondary education success, such as postsecondary education persistence (i.e., student retention or degree completion). This, combined with the already low rates of accommodation use at the postsecondary education level, is concerning. Accordingly, researchers have recommended that a

useful next step in this area of study is to investigate the predictive effects of accommodation provision on postsecondary education outcomes (Newman & Madaus, 2014).

Additionally, the effects of continued accommodation provision from high school to postsecondary education on students' postsecondary education outcomes are unknown. A dearth of research in this area is problematic, as questions remain as to whether accommodations influence long-term education outcomes. Investigation into the effects of accommodation provision in postsecondary education could therefore expand understanding of support provision for this group of students and inform postsecondary education practice.

Rationale

Decades of research on the use of educational accommodations by students with disabilities have elicited mixed results. An increasing number of studies have pointed to the effectiveness of accommodations in fostering student achievement in K-12. However, findings from the existing literature have suggested accommodations may not be provided in an equitable manner across K-12 environments (Bottsford-Miller, 2008; Finizio, 2008; Horvath, Kampfer-Bohach, & Farmer Kearns, 2005). Furthermore, the documented decrease in the use of accommodations from K-12 to postsecondary education by students with disabilities is concerning (Newman & Madaus 2014), particularly given that provision of certain accommodations during postsecondary education has been associated with higher academic achievement (Howe, 2013).

Despite an increasing understanding of accommodation use amongst students with disabilities, certain aspects of accommodation use have been less explored. Considering researcher recommendations for accommodation consistency, it could be helpful to explore and identify predictors of consistent accommodation provision. In particular, it is currently unknown

what alterable factors promote accommodation consistency across environments, and little information exists on what promotes continued use of accommodations from high school to postsecondary education environments. Especially important is how parents and students may shape support provision across environments. Finally, more information is needed on the effects of continued accommodation use on postsecondary education outcomes.

The aims of the study are therefore to explore patterns of accommodation provision across environments as well as the predictors and outcomes associated with accommodation provision. The findings are intended to offer a greater understanding of accommodation use as it relates to the alterable factors that may promote accommodation provision across environments as well as whether continued accommodation provision predicts postsecondary education persistence. Results of this study are expected to offer important information for practitioners and researchers interested in how students with disabilities are supported and how these supports are associated with long-term educational outcomes.

CHAPTER 2

Literature Review

This literature review provides an overview of the theoretical and empirical foundations for the provision of accommodation supports for secondary and postsecondary students with disabilities, issues related to accommodation provision across environments, and the association between advocacy and accommodation provision. First, an overarching theoretical framework, ecological systems theory (Bronfenbrenner, 1979, 1994), is presented. Ecological systems theory suggests that interactions between a person and his environment (with other people or objects therein) impact human development. This theory is used as a foundation to explore the association between advocacy efforts and accommodation provision for students with disabilities across environments and over time. More specific to the variables of interest, an advocacy framework (Test, Fowler, Wood, Brewer, & Eddy, 2005) is also discussed. This framework provides a more precise lens through which access to academic supports for students with disabilities can be examined. Second, empirical work on academic accommodation provision for students with disabilities is reviewed. Third, an overview of empirical work relevant to accommodation provision and consistency as well as the relationship between parent and student advocacy and accommodations are provided. These reviews highlight how little research exists on student-level accommodation consistency and accommodation provision across environments as well as the need to better explore the relationship between continued accommodation provision and persistence in postsecondary education. This chapter concludes with a discussion of the need for the current study and the associated research questions.

Theoretical Background

Ecological systems theory. Developed by Urie Bronfenbrenner (1979), ecological systems theory is a broad framework intended to explain human development according to interactions within various systems. Specifically, ecological systems theory maintains that interactions between a person and the environment influence development (Sontag, 1997). Bronfenbrenner (1979) defined development as a "person's evolving conception of the ecological environment, and [their] relation to it, as well as the person's growing capacity to discover, sustain, or alter its properties" (p. 9). These interactions become increasingly complex, and Bronfenbrenner (2005) argued that children may eventually take on an agency role in their interactions. The shift over time in the form and function of ecological interactions (Bronfenbrenner, 1994) may thereby differentially influence development.

Multiple systems comprise the ecological systems framework, including the microsystem, mesosystem, exosystem, macrosystem, and chronosystem; pertinent to this study, however, are interactions that occur at the microsystem level. The microsystem includes patterns of interactions within a person's immediate environment. A common microsystem environment for students with disabilities is the classroom. Service provision, via interactions with educational professionals and associated adults, may be particularly critical for the developmental success of students with disabilities, as these students may encounter a myriad of environmental barriers when attempting to access instruction. Educational professionals with whom a student with a disability interacts throughout K-12 classroom experiences include teachers and other ancillary staff. These adults are typically responsible for ensuring that students with disabilities receive necessary educational accommodations. For students with disabilities receiving special education services in K-12 environments, unique opportunities for interactions

between teachers and parents are typically fostered via the IEP process (Fiedler & Danneker, 2007), in which parents are expected to participate in decision-making about specific services and supports that the student should receive. In contrast, in postsecondary education environments, the interaction between students with disabilities and adults for the purpose of accessing academic supports often require substantial self-initiation on the part of the student, as opposed to being teacher- or parent-led (Gil, 2007). Ecological systems theory thus provides a basis that highlights the dynamic nature of interactions across educational environments and underscores the importance of understanding how the changing nature of these interactions over time may influence the educational outcomes of students with disabilities.

Conceptual framework of self-advocacy. An important area of study for students with disabilities, given their unique needs, is that of advocacy. Advocacy may take various forms and is defined as "any time people act on behalf of themselves or others" (Alper, Schloss, & Schloss, 1995, p. 266). Frequently, advocacy efforts on behalf of students with disabilities are exhibited through parents' interactions with teachers in order to meet student needs in school environments (Bacon & Causton-Theoharis, 2012; Rehm, Fisher, Fuentes-Afflick, & Chesla, 2013). However, when students are able to do so, they may engage in a special form of advocacy: self-advocacy.

A framework created to describe the self-advocacy of students with disabilities and later applied to parent advocacy efforts on behalf of students with disabilities (Hutchinson et al., 2014) is the Conceptual Framework of Self-Advocacy (CFSA) by Test, Fowler, Wood et al. (2005). The CFSA is comprised of four components: knowledge of self, knowledge of rights, communication, and leadership. Knowledge of self includes understanding areas that may be more challenging for oneself, or one's child, and may thus necessitate additional supports. Knowledge of rights includes an understanding of the legal foundations for protection of civil

rights and education services and supports for students with disabilities. Communication serves as the behavioral output of these two components. Through communication, parents or students with disabilities assert students' educational rights to ensure meaningful access to educational environments (Fiedler & Danneker, 2007; Rehm, Fisher, Fuentes-Afflick, & Chesla, 2013). Leadership includes participation at an organizational level. For parents and students with disabilities, leadership may involve leadership in IEP meetings and other school activities (Hutchinson et al., 2010; Test, Fowler, Wood, et al., 2005).

The CFSA has been used as a framework for investigating the mechanisms underlying accommodation access for elementary and secondary students with disabilities. For example, Lopez (2016) used the CFSA as a foundation upon which to conceptualize self-advocacy behaviors among high school students with disabilities trained to request accommodations from teachers. Barnard-Brak and Fearon (2012) used the CFSA to explain the necessity of self-advocacy skills with regards to the IEP participation of adolescent students with disabilities. At the elementary level, the CFSA has been used to explain parent advocacy on behalf of students with developmental disabilities (Hutchinson et al., 2014).

Definition and Purpose of Accommodations

Students with disabilities have unique needs that may preclude them from effectively participating in education. In order for students with disabilities to effectively access instruction within the classroom, many need accommodations. Within an academic environment, accommodations are supports designed to enable access to instruction so students with disabilities may effectively learn and to allow for an accurate appraisal of scholastic development through assessment (Fuchs, Fuchs, & Capizzi, 2005). More specifically, accommodations are changes to instruction or testing that are intended to allow students with

disabilities the same level of access to educational content as granted to students without disabilities (Cox et al., 2006; Scanlon & Baker, 2012). Accommodations are designed to "'level the playing field'" (Tindal & Fuchs, 2000, p. 7) on academic tasks among students with and without disabilities. That is, accommodations remove barriers that may otherwise unduly influence the performance of students with disabilities given their unique needs.

Although reports on the types of accommodation vary, researchers tend to agree on four general categories (Christensen, Lazarus, Crone, & Thurlow, 2008; Hatcher & Waguespack, 2004; Vanderbilt University, 2016; Ysseldyke et al., 2001): setting, response, timing, and presentation accommodations. Setting accommodations are adjustments to the environment in which the student is expected to complete an academic task (Christensen et al., 2008). For instance, a student with unique difficulties sustaining attention may require individual test administration to reduce distraction. Response accommodations are adjustments to how a student completes the task (i.e., how a student answers items or questions). One response accommodation that may be offered to a student with a disability that affects his or her writing skills (for tasks that are not intended to instruct on or measure handwriting skills) is allowing the student to respond orally to assignment items and have a scribe writes his or her responses. Timing accommodations adjust when a student takes a test or completes an assignment, or extends the allotted time for these activities. Some examples include providing additional time on a task or administering a test with added breaks. Timing accommodations may be required by students who have disabilities that make it difficult for them to complete tasks according to the standard schedule. Lastly, presentation accommodations are adjustments to how task materials are administered to a student. For example, task items or directions may be read aloud to a

student with a reading disability instead of requiring the student to read written text independently (again, for tasks that are not intended to instruct on or measure reading skills).

With the myriad options for accommodations come varying levels of empirical support in terms of the extent to which accommodations enhance the validity of test scores among students with disabilities. The validity of and extent of support for an accommodation may influence decision-making regarding its provision. A valid accommodation is described as one that removes a disability-related barrier while allowing for accurate measurement of the academic construct of focus on a test (Fuchs et al., 2005; McDonnell, McLaughlin, & Morison, 1997). It is difficult to determine the validity of an accommodation, as validity can vary from test to test and student to student (Lovett & Lewandowski, 2015). Some researchers argue a valid accommodation should provide a differential benefit or boost. A differential boost is defined as accommodation use that improves the performance of students with disabilities who require the accommodation to a greater extent than the accommodation improves the performance of students without disabilities (Kettler, 2012). Other researchers take a firmer stance, suggesting accommodations should only improve the performance of students with disabilities who need them without providing any benefit to the performance of students without disabilities (Sireci, Scarpati, & Li, 2005). This notion is more commonly known as the interaction hypothesis.

Some accommodations, such as Braille, have a clear – and valid – use on a variety of tests by students with certain disability-related needs (e.g., vision impairments; Stone, Cook, Cahalan Laitusis, & Cline, 2010), as these accommodations remove sensory-related barriers that may prevent appropriate access to written text. Conversely, other accommodations, such as read-aloud accommodations, may benefit students from multiple disability backgrounds as well as students without disabilities (Buzick & Stone, 2014). The mixed research on the read-aloud

accommodation has thus made it a "controversial" (Thurlow, Lazarus, Thompson, & Morse, 2005, p. 238) accommodation to provide to students with disabilities, particularly on tests that are designed to measure reading skills. Though accommodation validity is not the focus of the current study, these examples are intended to communicate the complexities of accommodation decision-making when considering the validity and use of specific accommodations in different environments and for different students.

Two accommodations that are of particular focus in this study include read-aloud accommodations and extended time accommodations. Read-aloud accommodations present written text orally using pre-recorded audio, a computerized reader, in-vivo read-aloud by a trained individual, or other means of oral presentation (Buzick & Stone, 2014). Parts of an assignment or an entire assignment may be read aloud with this accommodation, and the read-aloud accommodation may be used for a variety of students with vision impairments or reading difficulties. The read-aloud accommodation is allowed or allowed in certain circumstances in some form in most state testing policies across the U.S. (Christenson, Braam, Scullin, & Thurlow, 2011). Extended time accommodations lengthen the amount of time for a student to complete an assignment or task. The length of time added to the test may vary or be unlimited (Lovett, 2010). Extended time is another accommodation frequently allowed or allowed in certain circumstances in state testing policies (Christenson et al., 2011).

Empirical Support for Accommodations

Given the frequent use of accommodations as a means of accessing testing and instruction within the general curriculum, it is important to understand the implications of accommodation use by students with disabilities. Educational research over the past few decades has focused on various aspects of accommodation use and the associated effects. Specifically,

researchers have investigated the effects of accommodation provision on student test and instructional task performance. They have more recently begun to investigate the relationship between accommodation provision and student outcomes in postsecondary education environments as well. The following is an overview of the research on the relationship between accommodations and both immediate and longer-term student outcomes.

Accommodation provision and student performance. Research on accommodation effects on student test performance has largely involved a comparison of the performance of student groups – those with and without disabilities – on unaccommodated and accommodated tests. Results have often indicated that students with disabilities derive greater benefit than students without disabilities from the provision of accommodations, although the differential benefit has not always been found to be significant (Buzick & Stone, 2014; Calhoon, Fuchs, & Hamlett, 2000; Gregg & Nelson, 2012; Lewandowski, Lovett, Parolin, Gordon, & Codding, 2007; Wood, Moxley, Tighe, & Wagner, 2017). This section very briefly reviews literature on some of the accommodations of particular interest within this study.

In a meta-analysis of the use of the read-aloud accommodation among grade school students with and without disabilities, Buzick and Stone (2014) found accommodated test performance effect sizes varied depending on the student group and academic domain measured. Specifically, the researchers reported a medium effect size for accommodated reading tests for students with disabilities (.56) and small effect size for students without disabilities (.21). Conversely, effect sizes for use of the read-aloud accommodation on mathematics tests for students with and without disabilities were trivial (.13 and .08, respectively). Buzick and Stone concluded that the read-aloud accommodation appeared to promote increased performance for students with disabilities on reading tests. However, the performance benefits incurred by use of

the read-aloud accommodation on mathematics tests were considerably weaker for both student groups. Although questions remain about whether the read-aloud accommodation actually promotes more valid test administrations, it is clear from the results of this meta-analysis that students with disabilities do appear to perform at higher levels when this accommodation is provided.

Wood and colleagues (2017) recently published a meta-analysis of the effects of read-aloud accommodations and text-to-speech assistive technology on the reading comprehension of individuals with reading disabilities. Study samples were comprised of individuals with disabilities in K-12 and postsecondary educational environments. Using Hedge's *g* calculations ($\bar{d}$) to correct for the small samples of the studies included in the meta-analysis, the researchers found that read-aloud accommodations had a small, positive impact on reading comprehension ($\bar{d}$ = .35, p < .01). Results were similar when constrained to K-12 students ($\bar{d}$ = .36, p < .01). Thus, text-to-speech and read-aloud accommodations appear to benefit students with reading disabilities. This aligns with the findings reported in the meta-analysis by Buzick and Stone (2014).

Researchers have also found that students with disabilities generally profit from extended time on tests. For instance, Lewandowski et al. (2007) analyzed the effects of extended time on a speeded mathematics task among middle school students with attention deficit-hyperactivity disorder (ADHD) and students without disabilities. Both the performance of students with ADHD as well as students without disabilities improved under the accommodated condition, although a differential boost was not observed.

Additionally, Gregg and Nelson (2012) conducted a meta-analysis of the use of the extended time test accommodation for high school students with learning disabilities and

students without disabilities. They calculated effect sizes for student performance in unaccommodated versus accommodated test conditions. The authors reported a large effect size (.90) for students with learning disabilities, favoring the accommodated test condition. They reported a medium effect size (.66) for students without disabilities, also favoring the accommodated test condition. Though extended time accommodations benefited both students with and without disabilities, results of the meta-analysis indicated students with learning disabilities profited more from extended time accommodations than students without disabilities.

Researchers have also studied the effects of accommodation packages (i.e., provision of multiple accommodations at once to a single student) on student achievement. Accommodation packages more accurately illustrate typical educational practice than provision of a single accommodation. In their study, Elliott, Kratochwill, McKevitt, and Malecki (2009) analyzed the test performance of fourth grade students when provided accommodation packages. The mean effect size for students with disabilities was large (.88), favoring the accommodated test condition. The mean effect sizes for students without disabilities were medium (.45 for a "standard" accommodation package and .44 for a teacher-recommended accommodation package), also favoring the accommodated test condition.

Empirical support for accommodation provision, in general, has accumulated over time. The aforementioned studies indicate that in many accommodated testing situations, students with disabilities experienced a differential boost in performance compared to students without disabilities. Accommodations may therefore be appropriate and ultimately necessary to help reduce unique barriers to learning and testing experienced by students with disabilities, thereby helping to facilitate better outcomes for these students. The specific conditions under which the provision of various accommodations truly enhances the validity of a test score is still debated. It

also remains debatable whether students with disabilities should be the only students eligible for accommodation use, given findings on the improved performance of students without disabilities under accommodated test conditions. Although these validity issues are important to further examine, the fact that accommodations do appear to have a positive impact on measurements of student achievement provides a foundation for further investigation into their provision across contexts and the associated long-term student outcomes.

Accommodation provision and postsecondary education outcomes. Many more students with disabilities are participating in postsecondary education than in the past (Newman, 2005). These students may ultimately need accommodations to address their unique needs in postsecondary environments in order to experience success. Therefore, researchers have begun to investigate how accommodations impact various postsecondary education outcomes. Some outcomes that have been studied are more immediate than graduation, such as student grade point average (GPA). For example, in her study on predictors of postsecondary education success, defined as students' feelings of success and progress as well as their GPA, Howe (2013) found accommodation provision was significantly positively correlated with success among students with disabilities. Howe's findings align with the findings of Schreuer and Sachs (2014), who found that the provision of certain accommodations was positively correlated with students' postsecondary GPA.

In his study of college students with learning disabilities, ADHD, and comorbid disabilities (i.e., learning disability and ADHD), Trammell (2003) explored the association between accommodation use and students' end-of-year GPA. Results indicated the accommodations had a demonstrable effect on end-of-year grades. Specifically, students with ADHD and comorbid disabilities who received accommodations had higher GPAs than those

who did not receive accommodations. Students with learning disabilities who received accommodations had lower GPAs than those who did not receive accommodations. Trammell suggested that students with learning disabilities may have had a poor understanding of their needs and may have consequently received inappropriate accommodations that negatively impacted performance. Thus, an understanding of one's needs and appropriate accommodation supports may have been integral to effective accommodation use.

Other scholars have focused on longer-term outcomes, such as degree completion or continued enrollment in school, known collectively as persistence (Getzel, 2008). Persistence has been used as an outcome in studies where it was reasonable to anticipate that students may not have graduated from a postsecondary education institution at the time of data collection (e.g., National Center for Education Statistics, 2000). Existing research is mixed on the association between the accommodation use of students with disabilities and aspects of postsecondary education persistence (Cawthon, Leppo, Ge, & Bond, 2015; Pingry O'Niell, Markward, & French, 2012).

Cawthon et al. (2015) recently analyzed data from the National Longitudinal Transition Study-2 (NLTS2) to assess the relationship between accommodation use and student persistence among postsecondary students with hearing impairments. Logistic regression analysis was conducted to determine whether accommodation use predicted persistence. After controlling for parent education, parent income, high school grades, disability comorbidity, and ethnicity, accommodations did not significantly predict persistence. A major limitation of this study, however, was the high nonresponse rate and homogenous sample. Most students were white, had comorbid disabilities, and were from high-income families (i.e., $70,000 or more a year). Thus,

the generalizability of this study is quite limited, and the findings do not necessarily reflect the experiences of all students with disabilities.

Pingry O'Neill and colleagues (2012) investigated the relationship between accommodation provision and postsecondary education graduation. The sample was comprised of 1,289 students with disabilities from three universities who had left their postsecondary education institution at the time of data collection. Logistic regression results suggested that graduation odds were higher when students were provided certain accommodations (i.e., distraction-reduced testing, alternative test formats, flexible due dates, learning strategies and study skills support, and physical therapy/functional training) and lower when students were provided other accommodations (i.e., assistive technology, classroom assistants, note-taking services). The authors postulated that the potential negative impact of accommodations may have been partly due to lack of student familiarity with how to use assistive technology or the variable quality of human accommodations. Pingry O'Neill and colleagues did not specify whether students had encountered the accommodations in previous environments (e.g., K-12 instruction), however, such that students may have been unfamiliar with the accommodations of interest. An additional caveat to the interpretation of these findings was the lack of control for students' underlying achievement. Achievement levels may have impacted results, as students who received accommodations may have had fewer skills or lower achievement and may have thereby been less likely to graduate regardless of accommodation use. This limits the extent to which one can conclude that accommodations influenced student graduation.

Overall, research on accommodations in postsecondary education environments suggests accommodations may be positively associated with both short-term (e.g., GPA) and long-term (e.g., degree completion) outcomes. Ultimately, researchers have noted that although students

with disabilities continue to demonstrate poor postsecondary education outcomes, accommodation use may be one part of an institutional support system to promote student persistence (Getzel, 2008). However, the above findings are conflicting, and little research exists on actual persistence for a representative sample of students with disabilities. Furthermore, studies suffered from one or more methodological limitations, including lack of control for students' underlying achievement levels, which could confound results. An empirical investigation on the predictors of postsecondary education persistence among a representative group of students with disabilities that includes control for achievement levels could help increase understanding of the influence of accommodation provision on long-term academic outcomes.

Potential for Inconsistencies in Accommodation Provision

Experts argue that accommodations should ideally be provided consistently across academic environments so as not to unduly influence student performance (Salend, 2008). It can be argued that the needs of a student with a disability remain the same when similar demands and expectations for learning are in place in each environment. Similar environmental demands would thereby necessitate the same supports to allow a student to meaningfully engage in tasks. Not providing a student with a valid and appropriate accommodation in testing that was previously used for instruction, or providing a student with a novel accommodation in a testing environment that was *not* previously used in instruction, may decrease the accessibility of the task content and have detrimental ramifications for student performance (Ysseldyke et al., 2001). In fact, many state policies mandate consideration of instructional accommodations when an IEP team decides on accommodations to provide students with disabilities during general statewide accountability testing (Christensen et al., 2011).

At the same time, it is important to note that there may be certain instances in which it may be appropriate to provide an accommodation in one environment but not another. This may particularly be the case if there is a discrepancy between what is being taught and/or assessed across environments. For example, at certain times, math instruction may focus solely on developing students' math fact knowledge, and not involve written text. At other times, it may focus on developing students' word problem solving abilities, in which written text may be used. Due to the different instructional (and also testing) foci, variation in the need for and provision of the read-aloud accommodation would be expected across these activities. However, it can generally be assumed that in any given class, the skills and knowledge that are the focus of instruction are expected to be similar to the skills and knowledge that are the focus of testing. Furthermore, unless a student's underlying academic skills improve substantially (e.g., the student learns to read) or the demands of the instructional environment are considerably reduced (e.g., print is not used for instruction), accommodation needs would be expected to be similar across high school and postsecondary education environments.

When considering alignment of accommodation provision through the lens of ecological systems theory, one might conjecture that supports provided regularly, or consistently, across environments could have a more positive impact on the academic development of students with disabilities than supports provided irregularly, or inconsistently. "Consistency" refers to whether students with disabilities receive the same accommodations in one academic environment as in another. To this end, researchers have argued that providing accommodations consistently could be important for increasing the achievement of students with disabilities (Cox, Herner, Demczyk, & Nieberding, 2006). However, it is not clear whether there is significant consistency in the accommodations provided to individual students across instruction and testing. Furthermore,

little research has investigated accommodation consistency or even general patterns of accommodation provision across high school and postsecondary education environments among the same students. This section reviews the available literature on accommodation consistency across high school instruction and testing as well as accommodation provision across high school and postsecondary education environments.

Accommodation consistency in instruction and testing. Of importance regarding support provision for students with disabilities in high school is the receipt of similar accommodations across instruction and testing environments. However, various macro-ecological factors can contribute to inconsistent accommodation use across environments. These factors include resource availability at a student's school, the level of importance placed on demonstrating student skill proficiency during general statewide accountability tests as opposed to during instruction or classroom testing, and variability in state policy on permissible test accommodations.

Accommodation provision in both instruction and testing may be influenced by resource availability within a school system. High poverty schools have less per-pupil funding than low-poverty schools (Heuer & Stullich, 2011), and this may translate into fewer resources available to students in high-poverty schools. For instance, fewer teachers from impoverished schools have reported having adequate resources to support students compared to those from higher income schools (Lippman, Burns, & McArthur, 1996). This is concerning within the context of accommodation provision given that schools may not have an appropriate amount of accommodation supports to ensure accommodations are provided consistently to students with disabilities in both instruction and on general statewide accountability tests.

Accommodation use during testing is particularly important in today's culture of educational accountability. Per federal law, the vast majority of students with disabilities must participate in general statewide accountability testing (IDEIA, 2004). Many students with disabilities use accommodations in order to do so. In fact, among a nationally representative sample of high school students with disabilities, 71% of the sample that participated in general statewide accountability tests did so under accommodated conditions (U.S. Office of Special Education Programs [OSEP], 2004). A resounding concern, however, has been the effect the participation of students with disabilities may have on overall school effectiveness ratings as part of state measures of schools' adequate yearly progress (Katsiyannis, Zhang, Ryan, & Jones, 2007). Some student samples have received more accommodations in testing than instruction (Ysseldyke et al., 2001), perhaps due in part to the pressure for schools to demonstrate strong student achievement on general statewide accountability tests. Accommodation provision may be viewed as giving students with disabilities the "boost" needed to demonstrate success on these high-stakes tests. There may be less concern about ensuring that accommodations are provided on a regular basis during instruction.

At the same time, state policy stipulations may restrict the accommodations permissible on general statewide accountability tests (National Center on Educational Outcomes, 2016). Some accommodations that teachers use during instruction may not be allowed on accountability tests given validity concerns regarding their use (Cox et al., 2006). For instance, a read-aloud accommodation may be considered appropriate for use during classroom instruction but may invalidate the scores of a student with a disability on a measure of reading decoding skills. This accommodation may thereby be impermissible for use in a reading accountability test. Indeed, following training on appropriate IEP documentation and state and federal education law,

Shriner and Destefano (2003) found IEP teams were more complete in documenting instruction and test accommodations on students' IEPs *and* tended to provide more accommodations during instruction than testing. These findings could reflect educational professionals' growing understanding of the legal constraints regarding accountability test accommodations. The limitations on accommodation use via state policy may contribute to inconsistent accommodation provision across instruction and testing.

In two investigations of accommodation provision in instruction and general statewide accountability tests, researchers found relatively high rates of accommodation provision across both instruction and testing (Thurlow et al., 2000; Ysseldyke et al., 2001). Ysseldyke et al. (2001) measured accommodation "match," defined as instances in which students received *any* of the same accommodations in instruction as in statewide accountability testing. Students for whom "match" was reported may have received one or more of the same accommodations across instruction and statewide accountability testing. It was not specified what individual accommodations "matched" across environments. Conversely, in their study, Thurlow et al. (2000) did not determine accommodation "match" but reported on individual accommodation receipt across instruction and statewide accountability testing. Specifically, Thurlow and colleagues (2000) reported overall sample patterns – rather than individual student patterns – in the receipt of each accommodation across environments.

Both groups of researchers used frequency statistics to describe accommodation provision patterns. The authors of both studies concluded that there was a high amount of similarity in accommodation use across instruction and statewide accountability testing. However, without specific information on the types of accommodations individual students received across instruction and testing, it cannot be determined whether accommodations were

provided consistently for individual students across these environments. For instance, it could be the case that a proportion of students provided accommodations in both instruction and statewide accountability testing did not actually receive the same accommodations across environments.

Finizio (2008) also investigated the "match" between instructional and test accommodations for students with disabilities in an urban district. Accommodation data were collected from the IEPs of 8th and 10th grade students with disabilities. To determine consistency, Finizio calculated match statistics for individual accommodations using descriptive uni-directional analysis (starting with presence of an instructional accommodation *or* starting with presence of a testing accommodation to assess match) and bi-directional analysis (assessing match from both directions). The accommodations with the highest match rates ranged from 61% using a bi-directional analysis to above 70% using a uni-directional analysis. Match rates varied according to accommodation type, raising questions about what factors may impact accommodation provision across environments. Finizio concluded that differing environmental demands might have contributed to lower match rates among certain accommodations. For instance, a student may have required a "familiar test administrator" accommodation in testing but not in classroom instruction. Situations such as this may have contributed to the reporting of an accommodation in one environment but not another (i.e., a lack of match). A caveat to results interpretation is the data source. Results reflected only the accommodations reported in students' IEPs. No teacher data regarding accommodation provision during instruction were collected. Thus, it is unknown whether instructional accommodations recorded in students' IEPs were actually provided by teachers during instruction.

Horvath et al. (2005) conducted a qualitative study exploring accommodation availability for K-12 students with deaf-blindness. They found that nearly half (eight of 20) of the

accommodations available for use by students were available inconsistently across instruction and testing (i.e., available in one environment, but not the other). Of these accommodations, six of the eight were available more often in testing than instruction. Thus, even the availability of accommodations may vary across environments. A limitation of the Horvath et al. study was the nature of the sample, which was quite small (n = 9) and represented a low-incidence disability group. Therefore, the generalizability of these results to other students with disabilities is questionable, and more representative research on accommodation provision would be helpful.

Accommodation provision in high school and postsecondary education environments. As students with disabilities matriculate into postsecondary education, it is important for them to navigate these new environments and access necessary accommodation supports. The disability-related needs of students with disabilities do not dissipate upon completion of high school and matriculation into postsecondary education. Should the academic demands remain similar from high school to postsecondary education environments, it is reasonable to believe that students with disabilities continue to benefit from use of the same or similar accommodations as those the students used in high school. At the very least, students with disabilities may profit from continued accommodation use more generally given the likelihood of increased postsecondary education academic demands. Therefore, "continued accommodation provision" refers to students' receipt of accommodation supports in postsecondary education after having received them in high school. Unfortunately, continued accommodation use may be complicated by postsecondary education procedural expectations for obtaining accommodations that differ from the procedures used in high school.

There is a notable shift in the activities surrounding and requirements related to accommodation provision in postsecondary education environments compared to high school.

Specifically, as a student with a disability enters a postsecondary education institution, the responsibility for securing accommodations transfers from educational staff to the student. In the postsecondary education environment, students typically must procure disability documentation and submit it to educational institutions' disability service centers to receive accommodations. The expenses for an accompanying assessment are no longer the burden of the school but the responsibility of the student (Shaw, 2009). Furthermore, changes in diagnostic requirements may impact accommodation eligibility in college (Lovett & Lewandowski, 2015). Discrepancies in policy language between IDEIA (2004) and ADA (2008) as well as Section 504 (2007) may also make it more difficult for students to receive accommodations, as the purpose of the latter are to prevent discrimination by promoting access to school environments, while the former ensures provision of specialized services and supports for students with disabilities (Eckes & Ochoa, 2005). Students who received accommodations under IDEIA (2004) in high school may not be provided the same accommodations in postsecondary education under ADA (2008) and Section 504 (2007) should disability service centers determine accommodations are not necessary for instructional access. Furthermore, additional difficulties arise when postsecondary students are required to disclose their disability status in order to receive reasonable accommodations. Some students may be less inclined to self-advocate for disability-related supports. Even students who do advocate and receive accommodations may encounter resistance from faculty unfamiliar with accommodations or related policy (Bolt, Decker, Lloyd, & Morlock, 2011; Cawthon & Cole, 2010).

In a recent study of a national sample of students with disabilities, Newman and Madaus (2014) explored general trends in accommodation provision from high school to postsecondary education environments. Using a paired-samples t-test, they found significantly fewer students

received accommodations in postsecondary education environments compared to high school ($p < .001$). The authors concluded that students likely did not know their rights nor understand how to communicate with disability service centers to secure continued accommodation supports.

Other studies have conversely suggested that students with disabilities receive more accommodations in postsecondary education environments. Specifically, Sharpe, Johnson, Izzo, and Murray (2005) found that a greater percentage of individuals reported receiving accommodations in postsecondary education environments relative to high school. This could reflect a high level of self-advocacy among this sample. A caveat to consider is the sample itself. The sample, comprised of postsecondary education graduates with disabilities, included some individuals who were first identified with disabilities when they were in postsecondary education, and therefore not likely to have been provided accommodations during high school. Moreover, the authors presented aggregated accommodation provision data, simply indicating the percent of students who received accommodations in each environment. These results therefore do not accurately capture possible changes in accommodation provision from high school to postsecondary education for students identified prior to college as having disabilities.

Additionally, in their study on the experiences of students with disabilities in high school and postsecondary education, Bolt et al. (2011) found that students tended to report using more accommodations in college relative to high school. However, data collection was based on retroactive report such that some students were uncertain of the services provided in high school, and 38% of the sample did not receive special education services or 504 services in high school. Additional longitudinal research following students with disabilities from high school to postsecondary education may provide a more accurate representation of any changes in supports received across environments.

Cawthon and Cole (2010) found mixed patterns in accommodation provision across high school and college for a sample of students with learning disabilities. Of the 16 accommodations surveyed, seven were received by the same number of students in both environments, five were received by more students in college than high school, and four were received by more students in high school than college. The authors concluded that shifts in the number of students provided accommodations in each environment may have been due to students finding certain accommodations more or less useful in college compared to high school. An additional limitation is the retroactive nature of the data collected; relying on college students' reports about their high school accommodations may not have yielded the most accurate results. Furthermore, the students attended a large research university, which limits the applicability of the results to students in other postsecondary education institutions (e.g., community colleges).

In summary, although there is a growing research base on accommodation use across educational environments, there are various limitations to existing empirical work. First, the research that exists uses a variety of methods with little focus on individual accommodation consistency across high school instruction and testing environments. Research on consistency is needed to determine whether accommodations are provided as deemed appropriate by policy and as recommended by researchers. Second, patterns in provision for individual students from high school to postsecondary education environments are often based on retroactive student report and not data that are collected as students matriculate from high school into postsecondary education. Research on continued accommodation provision from high school to postsecondary education environments may provide a greater understanding of the academic support trends for a population increasingly attending postsecondary education institutions. Research on these aspects of accommodation provision serves as an important addition to the literature.

Factors Associated with Accommodation Provision

The review of accommodations literature provided earlier illustrates the possible benefits of accommodation use for students with disabilities. Potential benefits may be immediate or long-term and include increased access to educational content, boosts in academic performance, and persistence in postsecondary education environments. Given the potential positive outcomes associated with accommodation provision, it is important to identify and empirically study factors that may promote accommodation use in educational environments. Empirical work that has been conducted to examine both stable and malleable factors associated with accommodation provision, with an emphasis on the latter, is the focus of this section.

Demographic characteristics have been found to predict use of certain accommodations in grade school. Johnson (2008) investigated the relationship between ethnicity and provision of modifications and accommodations for elementary students with learning disabilities. Using logistic regression analysis, Johnson found that students' ethnicity predicted receipt of a small group or individual instruction accommodation. More specifically, Hispanic students were more likely to receive this accommodation. Moreover, white students were more likely to receive a note taker or scribe instructional accommodation. Ethnicity did not predict receipt of many other instructional accommodations, however. Ethnicity also did not predict receipt of test accommodations.

Cawthon and Wurtz (2010) conducted an exploratory study, examining predictors of test accommodation provision for students who were deaf or had hearing impairments. The sample was comprised of teachers who reported on state accommodation policy, school characteristics, classroom instruction, and the students in their classrooms. Using logistic regression analysis, the authors found that a variety of factors predicted the use of four test accommodations (i.e.,

extended time, read-aloud, test item interpreter, test directions interpreter). The level of analysis was at the classroom level, with "accommodation use" reflecting use of one of the accommodations of interest by at least one student in a respondent's classroom. With regard to extended time and read-aloud accommodations (accommodations of interest in the current study), results indicated that both student and teacher characteristics predicted accommodation use. Specifically, teachers who had students with comorbid disabilities (i.e., learning disabilities, deaf-blindness) in their classrooms were more likely to report student use of the extended time and read-aloud accommodation. Teachers who perceived accommodations as valid were also more likely to report student use of the extended time and read-aloud accommodation. Teachers who perceived accommodations as easy to use were more likely to report student use of the read-aloud accommodation only. It should be kept in mind that this study represents a sample of students with low-incidence disabilities. Further, the unit of analysis was at the teacher level (with teachers reporting data on behalf of multiple students) and not the student level.

Bottsford-Miller (2008) similarly studied the predictors of accommodation use but extended her analysis to predictors of accommodation inconsistency across instruction and testing. Specifically, she conducted logistic regression analysis to determine whether associations existed between student demographic characteristics (i.e., urbanicity, ethnicity, school status, and disability type) and accommodation inconsistency. Results indicated that compared to students in urban districts, students in suburban districts were more likely to receive the extended time accommodation inconsistently across instruction and testing. Similarly, compared to students in elementary schools, students in secondary schools were more likely to receive the extended time accommodation inconsistently across instruction and testing. Demographic characteristics did not significantly predict inconsistency in read-aloud or alternate setting accommodation

provision across instruction and testing. Most students in the sample were from elementary and middle school environments, with only a small proportion from high school environments (4.2%). Additional research on students in high school is needed, as instruction and test performance may have greater implications for students' postsecondary options. Additionally, the accommodation use of students with disabilities in high school may shape patterns of accommodation use in postsecondary education environments.

As students with disabilities attend postsecondary education institutions at increasing rates (Newman et al., 2010), researchers have begun to study the factors associated with accommodation use in these environments as well. In a nationally representative investigation of the educational experiences of students with disabilities over time, Newman and Madaus (2014) found a significant decrease in accommodation provision from high school to postsecondary education ($p < .001$) across multiple types of postsecondary education institutions (i.e., vocational school, 2-year college, 4-year college). This downward trend in accommodation use from high school to postsecondary education suggests that regardless of what type of postsecondary education students with disabilities pursue, far fewer students report accommodation use in postsecondary education relative to high school.

Newman and Madaus (2015) also investigated predictors of postsecondary education accommodation, modification, and disability service provision. Separate logistic regression analyses were conducted for each institution type (i.e., vocational school, 2-year college, 4-year college). Multiple factors predicted support provision (e.g., disability status, income). However, germane to the current study, Newman and Madaus (2015) reported that both transition planning and students' self-realization, which refers to an individual's capacity to act in a manner based on an accurate understanding of one's strengths and weaknesses (Wehmeyer, 2003), predicted

support provision. Specifically, students who were provided training on postsecondary transition planning in high school were more likely to receive supports at 2-year colleges, and students who had postsecondary education accommodations recorded on their transition plans were more likely to receive supports at 2-year colleges and vocational schools. Thus, participation in the special education planning process, with a specific focus on securing appropriate supports, positively influenced support provision in certain postsecondary education environments. Further, students with higher levels of self-realization were less likely to receive supports at 2-year colleges. Newman and Madaus (2015) concluded that the findings on self-realization may have been due to students' inaccurate understanding of their disability-related needs, such that students underestimated the extent to which they required supports in 2-year colleges. Further, students at 2-year colleges may have not been aware of the disability services available at those institutions and therefore may not have sought supports.

Although the findings of Newman and Madaus (2015) are nationally representative, there are some limitations. First, though these findings suggest that students whose high school transition plans include postsecondary education accommodations are more likely to receive postsecondary education supports, there is a general absence of research on the predictors of continued accommodation provision from high school to postsecondary education environments. As accommodations are designed to promote student access in response to disability-related environmental barriers, it would follow that students with disabilities who received accommodations in high school would continue to require accommodations in postsecondary education environments with generally similar academic demands (e.g., for reading, writing, and completing academic tasks). Therefore, an understanding of what might contribute to continued accommodation use is important; a lack of accommodation use in postsecondary education for

students who received accommodations in high school could prove problematic for the postsecondary education access of those students.

Limited quality research exists that directly investigates what specific accommodations are provided consistently and what alterable factors predict consistency. Additionally, there is a paucity of research on the extent to which students continue to access accommodations across high school and postsecondary education environments. The research that does exist suggests accommodations may not always be provided in an equitable manner. Therefore, it may be fruitful to consider what alterable factors may impact accommodation use across environments. Advocacy may be one factor that could lead to greater accommodation consistency across environments as well as continued accommodation use into postsecondary education. Importantly, and unlike many macro-ecological factors that may impact accommodation provision, advocacy skills may be targeted for intervention in schools with parents and students.

Advocacy and Accommodation Provision

In considering the process for securing accommodations in both high school and postsecondary education environments, it follows that advocacy may play an important role (Rehm, Fisher, Fuentes-Afflick, & Chesla, 2013). Advocacy has been represented as a multifaceted construct in theory (Test, Fowler, Wood, et al., 2005). In special education research, advocacy has been primarily represented via engagement in the IEP process and other related special education procedures (Trainor, 2010). Considering the developmental needs of students with disabilities, such as a lack of independence, limited decision-making skills, or low academic agency, caregivers may advocate on their students' behalf (Gil, 2007). Consequently, parent advocacy may be particularly important for students to obtain necessary accommodations. Additionally, self-advocacy may also be important, particularly as students with disabilities

transition to postsecondary education environments, where greater independence in student functioning is typically expected. This section provides an overview of research on both self-advocacy and parent advocacy as well as the relationship between these two constructs and accommodation provision.

Self-advocacy. An important alterable characteristic that may have the potential to influence accommodation provision is self-advocacy. Self-advocacy of students with disabilities does not have a consensus definition. However, it has been defined in the literature as exhibiting assertiveness, taking actions to defend one's legal rights, leading IEP meetings, knowing one's rights, understanding oneself and one's needs, understanding opportunities and supports available to oneself, solving problems one encounters, communicating with others about oneself to meet a specific need (e.g., participate in an activity or obtain an accommodation), and exhibiting self-efficacy or self-esteem (Test, Fowler, Brewer, & Wood, 2005). Self-advocacy has also been distinguished as a component of self-determination (Fiedler & Danneker, 2007; Test, Fowler, Brewer, et al., 2005). Self-determination is a characteristic that has been targeted for development in school environments via initiatives put forth by the federal Office of Special Education Programming (Wehmeyer, 1999). Self-determination is considered important for the success of students with disabilities, who have historically demonstrated poor educational outcomes. A self-determined individual acts willingly as a causal agent to advocate for a specific outcome (Wehmeyer & Shalock, 2001).

In addition to a foundational understanding of one's disability, a general knowledge of available services and supports (and by extension, knowledge of one's rights) has been described as an important first step for students with disabilities who advocate for accommodations (Daly-Cano, Vaccaro, & Newman, 2015). Unfortunately, in grade school, students with disabilities may

lack awareness regarding how accommodations are selected for use and how to advocate for accommodations themselves (Gil, 2007). Few students with disabilities engage in activities representative of self-advocacy, which may include taking on a leadership role in IEP meetings and talking with one's teachers about desired supports (Fiedler & Danneker, 2007). Furthermore, students oftentimes expect adults to secure accommodations on their behalf (Prater, Redman, Anderson, & Gibb, 2014). Students with disabilities may therefore be unlikely to self-advocate for necessary accommodations, even in secondary school environments.

The lack of student understanding about the accommodation selection process was illustrated in a recent study by Baker and Scanlon (2016). The researchers interviewed high school students with high incidence disabilities (i.e., intellectual disability, ADHD, communication impairment, specific learning disability, emotional disturbance, and traumatic brain injury) to assess students' perceptions of accommodations. Results indicated that students did not understand accommodation selection procedures. Students were also oftentimes not aware of what accommodations were available to them. The authors reported that students knew appropriate accommodations were a part of their rights as students with disabilities, but students were not actively involved in the IEP development process. Students also demonstrated limited ability to plan for and request accommodations from teachers and provide input at IEP meetings about accommodations they found useful. Regardless, many students were aware of their disability-related needs and occasionally asked teachers for assistance or accommodations when they struggled to engage in classroom activities. Student efforts, however, were retroactive, done without forethought or planning, and done after students encountered difficulty with instructional material. The findings of this study illustrate the need for all characteristics of the CFSA (Test, Fowler, Wood, et al., 2005) to be activated in order to effectively self-advocate. Exhibiting some

CFSA characteristics (i.e., knowledge of self, knowledge of rights) and lacking others (i.e., communication, leadership) did not result in successful self-advocacy among these students.

Some exploratory research has suggested that self-advocacy training can influence accommodation provision among high school students with disabilities. Specifically, Prater and colleagues (2014) conducted a single-case design study where high school students with learning disabilities were trained to self-advocate. Students were taught about the nature of self-advocacy and the right to request accommodation in general education classrooms. Students were also instructed on the identification of their strengths as well as weaknesses that may necessitate supports. Lastly, students were taught how to communicate with teachers to initiate use of accommodation supports. Investigators found that post-intervention, most students requested more instructional accommodations from teachers, and all students improved the extent to which they requested accommodations appropriate for their needs. These findings suggest self-advocacy training may facilitate accommodation use.

With the shift in responsibility for obtaining accommodations transferring to the student in postsecondary education environments, self-advocacy may become particularly necessary for academic access among postsecondary students with disabilities. In fact, some researchers have argued that accommodation use is "one of the primary manifestations" (Anctil et al., 2008, p. 173) of self-advocacy by postsecondary students with disabilities. This is evidenced by the research of Walker and Test (2011), who implemented a self-advocacy intervention with African American college students with various disabilities. The intervention included training students to self-identify as students with disabilities to faculty, to identify their needs and appropriate accommodations, and to request those accommodations. Following the intervention, students reported using these skills to effectively obtain accommodations.

White and Vo (2006) similarly implemented a self-advocacy intervention designed to increase the accommodation use of three college students with disabilities. During the intervention, students learned about their disability rights under ADA (2008) and were taught how to request accommodations in their postsecondary education environment. All three students exhibited an increase in self-advocacy via their pursuance of accommodations post-intervention. As with the Prater et al. (2014) and Walker and Test (2011) studies, this study employed a single-case design, and therefore, the generalizability of these results to students with disabilities in general is limited.

Daly-Cano, Vaccaro, and Newman (2015) recently conducted a qualitative study on the self-advocacy experiences of college students with disabilities. Themes identified in the study included the need to know oneself and the need to know one's rights as prerequisites of self-advocacy in the college environment. Participants reported having learned self-advocacy skills prior to entering college, suggesting that this is a skill that may be developed in grade school and may have longitudinal effects across environments. Furthermore, many of the participants used self-advocacy by communicating with faculty and disability services centers to secure accommodations. The results suggest that self-advocacy may be associated with continued use of accommodation supports as students with disabilities matriculate into postsecondary education environments. Further, these findings are illustrative of the CFSA components, as students demonstrated a knowledge of their needs, their disability rights, as well as communication and leadership (via support requests with faculty and disability services centers) in order to secure appropriate accommodations.

The research described thus far pertains to students' self-advocacy in individual environments, including secondary and postsecondary education instruction. Although some of

the results may allude to the possibility of an association between self-advocacy and accommodation provision across instruction and testing as well as high school and postsecondary educational environments, no research currently exists that quantitatively investigates whether this is the case. Much of the existing research is qualitative in nature or utilizes single-case design. In an era of increased practitioner and policy focus on developing self-advocacy skills of students with disabilities (Ward, 2005), it will be helpful to quantitatively investigate the relationship between self-advocacy and accommodation use with a national sample.

Parent advocacy. The importance of and need for parent advocacy on behalf of students with disabilities as a means of effectively accessing necessary services and supports has been highlighted in the literature (Bacon & Causton-Theoharis, 2012). The term "parent advocacy" has been used interchangeably with parents' degree of involvement and role in special education processes (Cawthon, Garberoglio, Caemmerer, Bond, & Wendel, 2015; Lavlani, 2012). Many researchers have analyzed parent advocacy efforts via the quality and type of parents' participation in IEP meetings (Rehm et al., 2013; Wright & Taylor, 2014). Although parent advocacy may involve participation in general school activities (Trainor, 2010), parent advocacy is more than this. Parent advocacy also requires active efforts to secure appropriate supports and services for their children based on children's unique needs (Rehm et al., 2013). Through parent advocacy efforts, parents act as agents on behalf of their students within a school environment. There is a litany of research on perceptions of parent advocacy for students with disabilities, but little research has quantitatively investigated the relationship between parent advocacy and accommodation provision for students with disabilities. However, recent exploratory findings have suggested parent advocacy and accommodation provision may be associated.

In qualitative research on parent advocacy at the grade school level, Trainor (2010) identified four types of parent advocates for students with disabilities: intuitive advocates, disability experts, systems change agents, and strategists. Parents engaged in a variety of advocacy-related activities, such as attending and taking on leadership roles in IEP meetings, requesting accommodations from their students' teachers, volunteering at school functions, and participating in disability support groups. Many parents, regardless of advocacy type, reported advocating for accommodations for their students. Parents who were reportedly the most successful in their advocacy efforts exhibited "expertise" (p. 45). Expert parents were characterized by their knowledge of the education system, special education services, and their child's disability needs. An intuitive knowledge of one's child's needs alone was not sufficient to secure what parents wanted within the school environment. As reflected in the CFSA (Test, Fowler, Wood, et al., 2005), knowledge of rights, communication, and leadership was needed in addition to knowledge of the child's needs. Ultimately, this study was highly exploratory in nature. Additional research more directly investigating parent advocacy and accommodation provision is needed.

Other researchers have found similar relationships among parent advocacy and accommodation provision. Lavlani (2012) interviewed parents of preschool and elementary students with disabilities about their experiences with special education services. Several parents advocated specifically for use of assistive technology in their students' classrooms and reported success in obtaining this support for their children. Additionally, Kelly (2008) analyzed data from the Special Education Elementary Longitudinal Study (SEELS) to investigate factors associated with use of assistive technology by students with visual impairments. Based on her findings, Kelly reported that parent involvement in meetings or programming geared toward

families with children with disabilities positively predicted provision of assistive technology devices to students.

Although notably less research is available on parent advocacy in secondary environments, the research that exists suggests parent advocacy is important in the pursuance of accommodation supports. Rehm and colleagues (2013) used observations and interviews to assess the interactions of parents and school personnel in IEP meetings. The authors categorized parents' advocacy styles into four groups: strategic parents, high-profile parents, grateful-gratifier parents, and unsuccessful negotiators. Although both strategic parents and high profile parents actively sought services for their children, strategic parents in particular advocated for accommodations and other supports. Rehm and colleagues noted that successful advocates were persistent in seeking services and supports for their students, such that they "appealed adverse decisions and sought redress" (p. 1384), which – although not directly stated – may include special education due process procedures.

Though the above research largely represents parent advocacy via direct interactions with school staff, unique challenges are presented in securing accommodations in postsecondary education environments. Researchers have acknowledged the dearth of information about even general parent involvement on this area of student development (Francis, Fuchs, Johnson, Gordon, & Grant, 2016). This may be due in part to the increased expectations for student independence in these environments (Gil, 2007). Students – not schools or parents – must initiate the application for disability services and supports in postsecondary education. Furthermore, some have argued that effective parent involvement at this stage is less direct. Specifically, parent involvement may be more a matter of preparing students to self-advocate in college environments rather than parents advocating on students' behalf themselves (Smith, English,

Vasek, 2002). It therefore seems that parent advocacy is more important for students in grade school, where students are dependent upon their parents and teachers for receipt of special education services and supports, compared to postsecondary education, where it is typically the responsibility of the students to advocate for supports on their own.

In summary, existing research supports the idea that components of the CFSA – including knowledge of one's child and their rights, communication with school staff for supports, and adoption of a leadership role (Test, Fowler, Wood, et al., 2005) – positively influence supports students receive. However, the existing research is limited in several ways. First, these findings presumably apply to singular environments, such as elementary classrooms. Research has yet to explore the relationship between parent advocacy and consistency in accommodation provision across instruction and testing as well as on continued accommodation use over time (i.e., from high school to postsecondary education environments). Second, little quantitative data exists exploring the relationship between parent advocacy and accommodation provision, particularly in high school and postsecondary education environments. Depending on student needs, parent advocacy may impact accommodation provision for students with disabilities in high school and postsecondary education environments and requires further study.

Summary. Accommodation provision ideally facilitates the instruction and test access of students with disabilities such that students have appropriate opportunities to learn and to show what they have learned. Available research suggests advocacy efforts, both within and outside a student's control, may influence accommodation provision for students with disabilities in various educational environments. However, it is unknown whether these advocacy factors impact accommodation consistency across high school instruction and testing. It is particularly important to determine whether advocacy is associated with accommodation consistency in high

school, as consistent accommodation provision is recommended by scholars, and state policy recommends that, for accommodations deemed permissible on statewide accountability tests, students with disabilities use the same accommodations during accountability testing as during instruction. Furthermore, it is also important to identify factors that may be associated with continued use of accommodations into postsecondary education. It was hypothesized that parents and students that exhibit behaviors reflective of the CFSA are more likely to acquire accommodations within and across high school environments (i.e., accommodation consistency). Moreover, it was hypothesized that students who exhibit behaviors reflective of the CFSA are more likely to report continued accommodation provision from high school into postsecondary education. Reflective of ecological systems theory, regularity in interactions (including accommodation provision) across environments may have a positive impact on academic development.

Need for the Present Study

Accommodations can provide critical access to educational content for students with disabilities. Federal education law (IDEIA, 2004) as well as federal civil rights laws (ADA, 2008; Section 504, 2007) dictate provision of appropriate supports. However, different laws provide protections for students with disabilities as they matriculate from high school into postsecondary education. Accommodations are ideally provided consistently across K-12 instruction and testing environments, as suggested via policy guidelines. However, empirical work on this important area is limited. As students enter postsecondary education, accommodations are provided to increase access, not necessarily success, and are granted on an individual course basis (Shaw, 2009). Furthermore, postsecondary students are required to self-disclose in order to receive accommodations (Lovett & Lewandowski, 2015). Changes in

accommodation selection procedures from high school to postsecondary education may influence the extent to which students continue to receive supports in postsecondary education settings after they have received them in high school, necessitating further exploration into how parents and students shape the accommodation provision process across these differing environments.

Accommodation use may not just serve to support the student in the immediate environment. It has also been positively associated with postsecondary academic outcomes for students with disabilities that receive them, such as GPA and graduation (Howe, 2013; Pingry O'Neill et al., 2012). However, there is a dearth of research on the relationship between continued accommodation provision from high school to postsecondary education and postsecondary education outcomes. Therefore, additional research on the relationship between continued accommodation provision and the postsecondary education persistence of students with disabilities is warranted.

Accommodation selection does not occur in a vacuum; instead, it is influenced by a variety of ecological factors within and outside of a student's control. Potentially important factors to consider when attempting to understand accommodation provision include parent advocacy and self-advocacy, as a review of the research suggests that advocacy may be associated with accommodation provision in educational environments. Using ecological systems and CFSA frameworks, this study adds to the literature on accommodation provision, contributing to a better understanding of the processes surrounding accommodation use and the association between accommodation use and postsecondary education success.

Research Questions (RQs)

RQ 1. *What are the patterns of accommodation provision across educational environments?*

A. *To what extent are the extended time and read-aloud accommodations provided consistently across high school instruction and state accountability testing? When provided inconsistently, are the extended time accommodation and read-aloud accommodation reported more often in instruction or accountability testing?*

RQ 1A Hypothesis: Accommodations will be more frequently reported for accountability testing than instruction.

B. *To what extent do accommodations continue to be provided in postsecondary education as in high school? When provided in one environment but not another, is receipt of any accommodations reported more often in high school or postsecondary education?*

RQ 1B Hypothesis: Accommodations will be reported more frequently in high school than postsecondary education.

RQ 2. *Are parent advocacy and self-advocacy associated with accommodation provision during across educational environments?*

A. *Are parent advocacy and self-advocacy behaviors associated with consistent extended time and read-aloud accommodation provision across high school instruction and state accountability testing?*

RQ 2A Hypothesis: Parent advocacy and self-advocacy will be positively associated with accommodation consistency across instruction and accountability testing.

B. *Are parent advocacy and self-advocacy behaviors associated with continued accommodation provision from high school to postsecondary education?*

RQ 2B Hypothesis: Parent advocacy will not be associated with continued accommodation provision. Self-advocacy will be positively associated with continued accommodation provision.

RQ 3. *Is continued accommodation provision across high school and postsecondary education associated with postsecondary education persistence?*

RQ 3 Hypothesis: Continued accommodation provision will be positively associated with postsecondary education persistence.

RQ 4. *What are the experiences of students and parents in securing disability-related supports from secondary to postsecondary education?*

CHAPTER 3

Method

This study used an extant dataset developed through the National Longitudinal Transition Study 2 (NLTS2) to address RQ 1 through 3; ad hoc qualitative interviews were conducted to address RQ 4. This chapter first describes the sampling and data collection procedures associated with the NLTS2 in general. Next, the specific participants selected for analysis to address RQ 1 through 3 are described, along with how the targeted variables were measured using information available in the existing dataset. This is followed by a section describing the participants recruited for the ad hoc interview. Finally, the chapter concludes with a description of the data analyses used to address each research question.

Research Design

The primary research method was a quantitative descriptive and correlational approach. I used correlational methods to explore whether parent advocacy and self-advocacy during high school were associated with consistent accommodation provision. I also used these methods to explore whether advocacy was associated with continued accommodation provision. "Consistency" referred to provision of the same individual accommodation in two environments (i.e., instruction and testing). For instance, an extended time accommodation would be consistently provided if given in classroom instruction and in accountability testing. "Continued accommodation provision" referred to instances in which a student who was provided an accommodation in a previous environment (e.g., high school) was also provided an accommodation in a later environment (e.g., PSE). I also investigated the association between continued accommodation provision and PSE persistence (i.e., continued attendance or degree completion) among students with high incidence disabilities.

To more fully explore the experiences of students and parents in obtaining accommodations during high school and college, I conducted qualitative interviews following the secondary analysis. I developed these ad hoc, semi-structured interviews based on results from the secondary NLTS2 analysis. Results were analyzed using thematic analysis (Braun & Clarke, 2012).

National Longitudinal Transition Study 2

Sampling Procedures. The NLTS2 was a federally funded nationwide data collection endeavor. It recorded the secondary and postsecondary experiences of individuals with disabilities at the turn of the 21st century (SRI International, n.d.). Primary data collection occurred over a nine-year period from 2001 through 2009 (Newman, Wagner, Cameto, & Knokey, 2009). First, SRI International employed stratified sampling of local education agencies (LEAs; *n*=501) and state special schools (*n*=38) across the United States that enrolled students in grades 7 through 12 (Wagner, Newman, Cameto, Garza, & Levine, 2005). To ensure adequate representation of the universe of LEAs, stratification was based on U. S. geographic region, the enrollment levels of students across LEAs (from small enrollment levels to very large), and district wealth as determined by the proportion of students living in poverty (Wagner & colleagues, 2005).

After sampling LEAs, SRI International conducted stratified random sampling of students with disabilities in the sampled LEAs according to federal disability categories and age. To develop appropriate standard errors – and thereby adequate precision – as well as adequate sample size in the last wave of data collection, 1,250 individuals were sampled from each disability category with the exception of those with traumatic brain injury or deaf-blindness, for whom such sampling would prove difficult given their low incidence (Cameto, Wagner,

Newman, Blackorby, & Javitz, 2000a; Wagner et al., 2005). The final sample included 11,276 students ages 13 to 16 at the start of data collection.

NLTS2 Data Collection Methods. SRI International (n.d.) used a variety of data collection methods to record the educational, employment, and life activities and characteristics of students with disabilities. Data collection methods included the following: a direct assessment of student achievement and accompanying set of structured rating scales; a parent and/or youth interview or survey; a teacher survey; a student school program survey; a school characteristic survey; and student high school transcripts. Data collection occurred every two years for a total of five waves, although not all areas of functioning were measured in each wave, nor were all methods of data collection used in each wave.

The current study included an analysis of data from the direct student assessment, the school program survey, the teacher survey, and the parent and/or youth interview or survey. Given the focus of the study, the following section pertains only to the data collection methods mentioned above. Thorough descriptions of all data collection methods and associated items are available in reports at www.nlts2.org.

Direct assessment (DA). The direct assessment of achievement and accompanying set of structured rating scales were conducted in Wave 1 and Wave 2 (Cameto, Wagner, Newman, Blackorby, & Javitz, 2000b). Students were assessed once at ages 16 to 18. Those who were not yet 16 years old during Wave 1 completed the assessment in Wave 2 to limit possible age effects that would be present had students of all ages been assessed in Wave 1 (SRI International, n.d.). Local teachers and school psychologists administered the DA (Wagner, Newman, Cameto, & Levine, 2006). If the standard assessment of achievement was determined inappropriate for students to complete, teachers completed a functional checklist assessing students' adaptive

skills. The research edition subtests of the Woodcock-Johnson III Tests of Academic Achievement (WJ III; Woodcock, McGrew, & Mather, 2001), developed for the NLTS2 and other national data collection programs, were used for the DA (Wagner, Kutash, Duchnowski, & Epstein, 2005).

School program survey (SP). School staff members completed school program surveys in the first two waves. SP respondents were individuals identified as knowing the students' school programming best. They were typically special education teachers. Respondents completed SPs by mail. Information gathered for the SP relevant to the current study pertained to descriptions of students and their school programming. This included but was not limited to: student demographic characteristics, such as their age, grade, gender, ethnicity, and family income; school urbanicity; whether students had an IEP or Section 504 Plan; students' participation in statewide accountability testing; and their services and supports, including accommodations.

Teacher questionnaire (TQ). For students enrolled in at least one academic general education class, a teacher completed a questionnaire. Teachers from students' first academic general education classes of the week completed the TQ about the students' experiences in those classes. Respondents reported on students' performance, instructional engagement, and receipt of specialized supports, including accommodations. Respondents also reported their classroom composition and instructional practices.

Parent/youth survey (PY). Finally, data included information collected via survey from parents and/or participating students during each wave. In Wave 1, only parents were interviewed or mailed an abbreviated questionnaire if they were not available for interview. In subsequent waves, parents and students were interviewed. If students were not available for

interview, they completed an abbreviated mail questionnaire. If students were not able to be interviewed at all, parents were interviewed instead. Respondents answered questions about secondary and postsecondary experiences and outcomes. Items pertinent to the current study included the following: parents' and students' engagement with high school services; students' completion of high school; students' enrollment in and completion of PSE; supports and services students received during PSE; and students' reasons for leaving high school or PSE.

Quantitative Analysis

Participant selection for current analysis. I selected participants from the NLTS2 sample according to inclusionary criteria corresponding to the unique nature of the quantitative research questions (RQs; see Table A1). This section outlines general inclusionary criteria for the quantitative analysis. Table A2 includes specific inclusionary criteria associated with quantitative RQs. Tables A3 through A5 provide demographic information for the original sample as well as the overall high school and postsecondary education samples following application of general inclusionary criteria.

Certain criteria applied to all research questions. First, students needed to receive disability-related educational supports. In particular, to assess accommodation consistency across instruction and testing, students first had to have the opportunity to receive accommodations. Potential for such supports was determined via receipt of an IEP or 504 Plan. Students with disabilities are often only considered eligible to receive accommodations if they have an IEP or 504 Plan. Therefore, it was necessary to limit the study to students with these plans. Receipt of an IEP or 504 Plan was reported in either W1 or W2. This study included students who reported receipt of an IEP or 504 Plan in SP W2. If they did not report receipt of a plan in W2, they were included if they reported receipt of an IEP or 504 Plan in SP W1. The wave in which a

respondent reported student receipt of an IEP, or 504 Plan dictated the wave from which the rest of a student's high school data were drawn for the current study; if students received an IEP or 504 plans in both waves, Wave 2 was used.

Second, only high school (i.e., 9th through 12th grade) students with disabilities were included. Of this group, only those whose primary disability was considered "high incidence" were included. The exception was RQ 2B. Due to small cell sizes and small *n*, the sample for RQ 2B was expanded to students with *any* disability (i.e., the 17 disability types specified in the NLTS2).

For the current study, five disability types comprised the high incidence disability group: attention deficit-hyperactivity disorder (ADHD), autism spectrum disorder (ASD), emotional and behavioral disorder (EBD), specific learning disability (SLD), and speech or language impairment (SLI). Researchers have argued for inclusion of students with ADHD, high-functioning ASD, and SLI in the high incidence disability category due to these students' increasing identification for special education services over the years (Gage et al., 2012; Trainor, Morningstar, & Murray, 2016). Therefore, students in these groups were included in the current study in addition to SLD and EBD.

Intellectual disability (ID) has also traditionally been considered a high incidence disability (Gage, Lierheimer, & Goran, 2012). However, it was considered appropriate to exclude this group from secondary analysis for a variety of reasons. Recent reviews of research suggest there are many cognitive and educational differences between students with mild ID and other students included in the high incidence disability group (i.e., SLD, EBD; Bouck & Satsangi, 2015; Sabornie, Evans, & Cullinan, 2006). Furthermore, the exclusion of students for whom ID was reported (ranging from mild ID to moderate/severe ID) eliminated those with

comorbid ID and ASD. The resulting group of students with ASD more accurately reflected those with high-functioning ASD (Reed, 1996). Students with high-functioning ASD have been categorized in the literature as a high-incidence disability group (Gage et al., 2012). Finally, individuals with SLD, EBD, ADHD, ASD, and SLI have attended 2- and 4-year colleges and universities at higher rates than students with intellectual disability (Newman et al., 2009). Given that the focus of this study is across high school and PSE environments, such patterns in PSE attendance make it important to examine these research questions with this group of students with high-incidence disabilities.

Third, students whose high school data were pulled from Wave 1 must have had parents complete the parent interview instead of the mail questionnaire. The mail questionnaire was an option in PY W1 if parents were unavailable for interviewing. The mail questionnaire was a truncated version of the interview, with some items consolidated, modified, or eliminated. Items related to mediation and due process hearings (i.e., dispute resolution) and youth IEP participation were not asked in the PY W1 mail questionnaire. Therefore, for the purposes of the current study, Wave 1 cases who completed the PY mail questionnaire were excluded from the analysis. This step was completed after isolating demographic and analytical variables of interest and merging relevant datasets but prior to applying exclusionary criteria and removing missing data via complete cases analysis (listwise deletion). For the high school datasets, less than 30 cases of over 2000 were deleted. Less than 10 cases were deleted for the postsecondary education datasets.

To address quantitative RQs pertaining to high school, additional criteria for participant inclusion were English language proficiency and no endorsement of deafness or hearing impairment. Specifically, students were included if they endorsed English as their first language

or if they endorsed bilingual language status. This criterion was included as survey items used to measure receipt of instructional read-aloud accommodations were written as "reader or interpreter." As the aims of the study were to examine the former (read-aloud accommodation) instead of the latter (interpreter), inclusion of English or bilingual speakers only allowed for a more specific examination of read-aloud accommodations instead of interpreter supports for English language learners. For the same reasons, students who endorsed deafness, deaf-blindness, or hearing impairment as disabilities were excluded. Demographic characteristics for the general high school sample can be found in Table A4.

Other inclusionary criteria for high school quantitative RQs pertained to accommodation receipt. First, cases were included only if they received an IEP/504 Plan and participated in mandated accountability testing in the same wave (W1 or W2). Receipt of an IEP/504 Plan and participation in mandated accountability testing in the same wave suggested students had the opportunity to receive accommodations in classroom and accountability testing environments. Second, cases were included only if they had (W1 or W2) data for TQ and SP accommodations of interest. Cases that did not have accommodation data available were excluded. Cases for whom accommodations were not provided in classroom instruction nor accountability testing were also excluded. Determination of accommodation consistency was not possible in these cases.

To address quantitative RQs pertaining to high school-PSE, I applied additional inclusion criteria pertaining to student high school and PSE attendance. For W1 cases, students must have been out of high school and attending a 2-year/community college or 4-year college/university in PY W2, W3, or W4. For W2 cases, students must have been out of high school and attending a 2-year/community college or 4-year college/university in PY W3 or W4. Application of these

criteria ensured the PSE sample was comprised of students attending PSEs who had the potential to receive academic accommodations in PSE after high school. Demographic characteristics for the general PSE sample are in Table A5.

Measures. I included multiple items and measures from the NTLS2 dataset for the secondary analysis. These included measures of student achievement and items corresponding to demographic characteristics, parent advocacy and self-advocacy, accommodation provision, and PSE persistence. The Conceptual Framework for Self-Advocacy (CFSA; Test et al., 2005) informed the selection of items representing advocacy behaviors in an effort to align with CFSA theory. For parent advocacy, this included items reflecting parent communication with school staff or leadership in school environments as well as parents' knowledge of their students and their students' rights. For self-advocacy, selected items reflected student leadership and communication. The following section provides an overview of the items within the NLTS2 dataset proposed to describe variation in the study variables. See Table A1 and Table A6 for more information.

Achievement. I included student achievement as a covariate for certain analyses. It was measured based on standard scores of the research edition of the WJ III, reported in the DA. The original WJ III battery was normed using a national sample of individuals aged 2 to 90 years and older (Schrank, McGrew, & Woodcock, 2001). The research edition of the WJ III, although comprised of fewer items, was normed on the same sample of individuals as the original WJ III (Wagner et al., 2006). Wagner and colleagues (2006) noted the research edition subtests have an average reliability coefficient of .65. Furthermore, test developers took care to ensure content validity, and publishers asserted appropriate construct and concurrent validity (Schrank et al., 2001).

NLTS2 participants completed six WJ III subtests: Passage Comprehension, Synonyms and Antonyms, Calculation, Applied Problems, Science, and Social Studies (Wagner et al., 2006). In this study, the Passage Comprehension subtest score served as a covariate for RQ 2B and RQ 3. Passage Comprehension assesses one's literacy skills and specifically one's ability to use text to formulate conclusions about phrases and passages. Literacy skills have been associated with the provision of various accommodations (e.g., extended time, books on tape, read-aloud, segmented text, and speech-to-text accommodations; Abedi et al., 2010; Davis, Christo, & Husted, 2008; Thurlow, Albus, & Christenson, 2009; Thurlow, Lazarus, & Hodgson, 2012) and have implications for achievement and success in a variety of academic domains (Caponera, Sestito, & Russo, 2016; Shapiro, Hurry, Masterson, Wydell, & Doctor, 2009). For RQ 2B, Passage Comprehension controlled for student achievement when determining the independent effects of parent advocacy and self-advocacy on continued accommodation provision. For RQ 3, it controlled for student achievement when determining the independent effects of continued accommodation provision on postsecondary education persistence. Failure to control for students' achievement levels via a standardized measure like the Passage Comprehension subtest may have diminished the ability to assess whether advocacy efforts impact continued accommodation provision and whether continued accommodation provision impacts student persistence. Other accommodation researchers have also selected this subtest as a covariate for similar analyses (e.g., Bottsford-Miller, 2008).

Research subtests of the WJ III provided three types of scores. These included percentile ranks, *W* scores, and standard scores. Standard scores for the Passage Comprehension subtest were used in the study as a measure of students' academic achievement. Standard score values

ranged from 0 to 200. For more information on the WJ III, see Mather and Woodcock (2001; as cited in Wagner et al., 2006).

Demographic characteristics. Variables representing demographic characteristics were identified as possible statistical controls for the inferential analyses. Specifically, three potential demographic controls – disability type, ethnicity, and family income – were identified for RQ 2A and RQ 2B. Accommodations researchers (e.g., Bottsford-Miller, 2008; Fuchs et al., 2000; Ganguly, 2010; Johnson, 2008; Monagle, 2015; Newman et al., 2011; OSEP, 2004; Rullman, 2003; Schreuer & Sachs, 2014) have previously included these characteristics as covariates in statistical models or demonstrated different associations between these characteristics or their proxies (e.g., free/reduced lunch, a common proxy for income) and accommodation use/provision or inconsistent reporting of accommodations. Four potential demographic controls – disability type, ethnicity, gender, and family income – were identified for RQ 3. Other researchers who have examined students with disabilities' postsecondary education success (e.g., DaDeppo, 2009; Petcu, Van Horn, & Shogren, 2017; Pingry, 2007; Pingry O'Neill et al., 2012; Stewart, Mallery, & Choi, 2013; Wessel, Jones, Markle, & Westfall, 2009), have included these characteristics or their proxies (e.g., mother's education level as a proxy for SES) as covariates in statistical models or have demonstrated different associations between these characteristics and postsecondary education success.

From there, I selected demographic controls for inclusion based on Chi Square Goodness of Fit tests, conducted via the SPSS Crosstabs function prior to addressing missing data. Due to small expected cell sizes when running Crosstabs, the following variables were collapsed into fewer categories for the Chi Square Goodness of Fit tests: the Ethnicity variable was collapsed into White, African American, Hispanic, and Other for RQ 2A (extended time accommodation)

and RQ 2B and into White and Persons of Color for RQ 2A (read-aloud accommodation) and RQ 3; the Disability Type variable was collapsed into Specific Learning Disability and Other High Incidence Disability for RQ 2A (read-aloud accommodation) and RQ 3, and into Mental, Sensorimotor, and Other for RQ 2B; and the Income variable was collapsed into ≤ $50,000 and > $50,000 for RQ 3. Demographic variables that demonstrated significant associations with the dependent variables were included as controls.

Only Disability Type was significantly associated with extended time accommodation consistency (RQ 2A; $p < .05$) and continued accommodation provision (RQ 2B; $p < .001$). Researchers have demonstrated an association between disability type and accommodation provision (Monagle, 2015), have documented different rates of accommodation provision based on disability type (Bielinski et al., 2001; Lipscomb et al., 2017; OSEP, 2004), and have used disability type as a control when examining predictors of accommodation provision (Bottsford-Miller, 2008). NLTS2 respondents provided information on disability type in the SP. The wave in which students' high school data were selected (W1 or W2) determined the wave from which disability type information was used for the analysis.

Parent advocacy. Multiple PY variables measured parent advocacy. These included: parent participation in IEP meetings; parent involvement in students' schools, which was a 0-12 score indicating no to high involvement and corresponded to a sum of the values of responses to "attended general school meeting," "attended school or class events," and "volunteered at the school"; and family engagement in at least one of two special education dispute resolution procedures, namely mediation and/or due process hearings. IEP participation, school involvement, and dispute resolution engagement were used as indicators of parent advocacy based on their prevalence in advocacy literature (Ong-Dean et al., 2011; Rehm et al., 2013;

Trainor, 2010). The IEP participation and dispute resolution variables were nominal, each with scores of 1 indicating respondents participated in the activity and scores of 0 indicating they did not. To create the dispute resolution variable, items representing mediation and due process hearings were combined. Mediation and due process hearings are dispute resolution procedures that represent parent efforts to contest special education decision-making (Yell, 2012) and by extension the likely efforts to secure services parents find appropriate for their students. A two-step process was conducted to combine the mediation and due process hearing items. First, W1 respondents answered whether the family *ever* engaged in mediation or due process hearings, while W2 respondents answered whether the family engaged in mediation and due process *in the past two years* (i.e., since W1). Because of this discrepancy, "if ever" variables for W2 respondents were created by combining W1 and W2 mediation and due process hearing items. Consequently, for both W1 and W2 respondents, the mediation and due process hearing variables indicated whether families ever participated in either dispute resolution procedure. Second, the values of the mediation and due process hearing variables (0 indicating no participation in the activity and 1 indicating participation in the activity) were added to create a dispute resolution variable. This sum (0, 1, 2) was recoded into a binary variable, with 0 indicating no participation in either activity and 1 indicating participation in one or both activities.

Self-advocacy. Two variables represented self-advocacy behaviors. Specifically, they addressed students' roles in their IEP/transition planning meetings and how well students asked for what they needed to do their best in a general education class (i.e., support request quality). Items were from the PY and TQ, respectively. Endorsement of these items represent the degree to which students led their IEP/transition planning process and requested supports to address

their needs. Accordingly, they may also indirectly reflect students' knowledge of their special education rights and academic needs. The IEP/transition meeting variable was ordinal, with a score of 1 indicating little or no student participation, a score of 2 indicating some student input, and a score of 3 indicating student leadership in the meeting. A W1 score of 4, indicating the respondent did not know about the student's role, was recoded to a missing value to match the "don't know" responses from W2 respondents, which were also coded as missing. The support request item originally had four possible responses: not at all well (1), not very well (2), well (3), and very well (4). I recoded this to a nominal, two-value variable: not well/not very well (0) and well/very well (1).

Instruction and testing accommodations. To assess accommodation provision in instruction and test environments during high school, items were selected from the TQ and the SP to represent provision of two classroom instruction (TQ) and accountability test (SP) accommodations: the extended time accommodation and the read-aloud accommodation. I selected these accommodations for inclusion in the current study based on their allowance in most state testing accommodation policies (Christenson et al., 2011) as well as their potential use across a variety of disability categories. Items were selected from both the TQ and the SP for two reasons. First, classroom instruction accommodations were pulled from the TQ, as TQ respondents identified accommodations provided to students in a general education classroom. This differed from the SP, in which respondents simply reported what was recorded on students' IEPs. Second, SP respondents were the only ones to report what accommodations students received on statewide accountability tests; TQ respondents did not have the opportunity to do so. As with the rest of the high school items, accommodation items were drawn from W1 or W2, depending on the wave in which cases' IEP/504 Plan item was drawn.

Responses to each variable type (instruction accommodation, accountability test accommodation) identified whether the student received the accommodation of interest in the respective environment. The accommodation provision variables were nominal. A value of 0 indicated no receipt of the accommodation, and a value of 1 indicated receipt of the accommodation.

Accommodation consistency. Accommodation consistency was operationally defined as whether students received the same accommodation in one educational environment (e.g., accountability testing) as in another (e.g., instruction). To determine whether an accommodation was provided consistently or inconsistently, the accommodation needed to have been provided in at least one of the two environments at minimum. Therefore, in the current study, consistency variables were computed for students who received the accommodation of interest (extended time, read-aloud) in classroom instruction and/or accountability testing. Consistency was not calculated for students who were reported to not have received the accommodation of interest in either environment.

Two consistency variables were computed to reflect whether students received read-aloud accommodations and extended time accommodations across classroom instruction and accountability testing. The consistency variables were nominal. A value of 1 reflected consistent accommodation provision, and a value of 0 reflected inconsistent accommodation provision.

High school and PSE accommodations. Items representing a variety of accommodations were included to assess accommodation provision in high school and in PSE (see Table A7 for a list of the included accommodations of interest). Because very few students go on to receive accommodations in PSE environments, a liberal approach was applied to examine high school versus PSE accommodation provision and continued accommodation use that went beyond

examination of a single accommodation, such as the extended time accommodation or the read-aloud accommodation. Specifically, the investigation of continued accommodation provision examined continued use of *any* accommodations, rather than continued use of specific accommodations.

To determine whether any accommodations were used in both high school and PSE environments, two sets of items were examined. The TQ provided the set of high school accommodations, while the PY provided the set of PSE accommodations. One high school accommodation variable was computed based on the 13 available classroom accommodation items in the TQ. The high school accommodation variable reflected whether students received any of the 13 accommodations of interest during the wave in which their high school data were pulled. One PSE accommodation variable was computed based on the 17 accommodations of interest in the PY. The PSE accommodation variable reflected whether students received any of the 17 accommodations of interest at any time since their first report of PSE attendance after leaving high school in W2 through W4. For students for whom W1 high school data were selected, accommodation data were selected from W2 through W4, W3 through W4, or W4 only, depending on the wave in which students were first reported to have left high school and attended PSE after W1. Similarly, for students for whom W2 high school data were selected, accommodation data were selected from W3 through W4 or W4 only, again depending on the wave in which students were first reported to have left high school and attended PSE after W2. Such a sequence allowed for multiple opportunities for respondents to report receipt of accommodations in the PSE environment.

The high school and PSE accommodation variables were nominal. A value of 0 indicated no receipt of any accommodation of interest in that environment. A value of 1 indicated receipt of one or more of the accommodations of interest in that environment.

Continued accommodation provision. A variable representing students' continued accommodation provision was also computed for this study. Specifically, one continued accommodation provision variable was computed based on whether students who received any accommodation(s) of interest in high school also received any accommodation(s) of interest in PSE, described previously. The computed variable was nominal, with a value of 0 indicating discontinued accommodation provision in PSE and a value of 1 indicating continued accommodation provision in PSE. Given the increased potential for variation in task demands across high school and PSE environments as well as the small PSE sample size for the current study (Table A5), continued provision of *any* accommodation from high school to PSE (as opposed to consistency in individual accommodation provision) was considered appropriate. Continued accommodation provision was not calculated for students who did not receive any accommodations of interest in both environments.

PSE persistence. Lastly, a variable representing students' PSE persistence was computed. To compute PSE persistence, two PY items reflecting students' attendance status at 2-year colleges and 4-year colleges/universities were selected from Wave 5. For each item, respondents endorsed one of the following options: the student had not attended the PSE institution as of Wave 5; the student was attending the PSE institution in Wave 5; the student previously completed a PSE degree *and* was currently attending the PSE institution in Wave 5; the student left or did not complete PSE in Wave 5 or a prior wave; or the student completed a PSE degree in Wave 5 or a prior wave. For students who first reported 2-year college attendance

upon leaving high school, the Wave 5 2-year college attendance item were recoded into a binary variable. A value of 0 indicated the student left the 2-year college for a reason other than degree completion, while a value of 1 indicated the student either still attended and/or had graduated from a 2-year college. Similarly, for students who first reported 4-year college/university attendance upon leaving high school, the Wave 5 4-year college/university attendance item was recoded into a binary variable. A value of 0 indicated the student left the 4-year college/university for a reason other than degree completion, while a value of 1 indicated the student either still attended and/or had graduated from a 4-year college/university.

A final binary PSE persistence variable was computed based on the recoded 2-year college and 4-year college/university attendance variables. A score of 0 indicated the student left their respective PSE institution. A score of 1 indicated the student was attending their PSE institution in Wave 5 and/or had completed a degree at their PSE institution in Wave 5 or a previous wave. PSE persistence was not calculated for those who never attended either PSE institutions as of Wave 5.

Data analysis. Frequency counts and multiple logistic regression were used to address the research questions for the current study. Frequency counts were used for RQ 1A and RQ 1B to address whether accommodations were provided more frequently in high school instruction or high school accountability testing environments (1A) as well as high school instruction and PSE instruction environments (1B). Frequency counts were considered appropriate for these questions because they are descriptive in nature and do not require analysis of a dependent variable and independent variable. Multiple logistic regression analysis was used to address RQ 2A and RQ 2B, which addressed the associations between measures of parent advocacy and self-advocacy with accommodation consistency (RQ 2A) and with continued accommodation provision (RQ

2B). Predictor variables were grouped conceptually and entered in blocks. Control variables were entered in the first block (if applicable) followed by parent advocacy variables entered in the next block and self-advocacy variables entered in the final block. Multiple logistic regression analysis was also used to address RQ 3. This addressed the association between continued accommodation provision and PSE persistence. In RQ 3, the control variable was entered in the first block and the continued accommodation variable was entered in the second block.

Prior to analysis, student clustering by LEA was examined to determine whether multi-level modeling was necessary. As LEA IDs are not available within the NLTS2, school cluster proxies were generated in two stages. Student cases were initially clustered based on school enrollment number (Wave 1 School Characteristics Survey) and separated into additional clusters if cases with the same school enrollment differed across one or more demographic markers (i.e., type of school, type of community, school ethnicity, school grade levels; Wave 1 School Characteristics Survey). As the average school-to-student ratio for each RQ was quite small even prior to addressing missing data (1.13:1 to 1.50:1), and the proportion of schools with fewer than five students was substantial (99.21% to 100% across RQs), multi-level modeling to address clustering was considered unnecessary, and logistic regression was deemed appropriate.

Logistic regression analysis is frequently used in social science research (LeBlanc & Fitzgerald, 2000). As part of data analysis for this study, common statistical checks pertinent to logistic regression were completed (Knapp, 2018; "Binomial Logistic Regression Using SPSS," n.d.; Wuensch, 2014). First, in logistic regression, the dependent variable must be binary, and independent variables may be categorical or continuous. Further, observations should be independent, and the dependent variable categories should be "mutually exclusive and exhaustive" ("Binomial Logistic Regression Using SPSS," n.d., para. 8). Based on the nature of

the data collected for the NLTS2 as well as the variables of interest for RQ 2A, RQ 2B, and RQ 3, these assumptions were considered met. Additionally, the Box-Tidwell test was completed to assess linearity between continuous predictors and the logit (outlined in Wuensch, 2014). Checks for adequate sample size (i.e., the *n* quota; Knapp, 2018) as well as examination of normality of and multicollinearity among continuous variables were completed as well. The following chapter includes notable results and adjustments.

Missing data. Lastly, this study used complete case analysis via listwise deletion. Previous research using logistic regression and data from NLTS2 have used a similar approach (Bottsford-Miller, 2008; Gronseth, 2011). Although it is not the most sophisticated approach to managing missing data (Baraldi & Enders, 2009), the complete-case analysis method provides researchers with a dataset that has no missing data at all.

To determine whether listwise deletion should be used to address missing data, regression analysis was conducted to analyze patterns of data missingness for each inferential RQ. First, all analytical variables as well as demographic variables (i.e., student age, gender, disability status, and ethnicity, family income, and school urbanicity) were recoded for missingness (1: case had missing data for that variable or 0: case had observed data for that variable). Second, the analytical variables, demographic variables, and missingness variables were regressed on each missingness variable to determine whether associations existed. There were multiple significant associations between variables for each inferential RQ. This suggested the data may not have been missing at random (MAR) nor missing completely at random (MCAR), which is a "special case" of MAR (Schafer & Graham, 2002, p. 151). When data are not MAR, bias may be introduced in the data regardless of whether listwise deletion or more sophisticated methods of addressing missing data, such as multiple imputation, are used; bias may even be more elevated

using imputation compared to listwise deletion (Pepinsky, 2018). Because of this, and due to the high levels of missing data for many of the predictor variables, listwise deletion of missing data was used.

RQ 1A: Patterns of accommodation provision in classroom instruction and accountability testing for those provided accommodations consistently and inconsistently. Frequency counts were determined to address RQ 1A. Among students for whom the accommodations of interest were reported, frequency estimates were calculated as follows: 1) receipt of the extended time accommodation in classroom instruction and accountability testing; 2) receipt of the extended time accommodation in classroom instruction, but not in accountability testing; 3) receipt of the extended time accommodation in accountability testing, but not in classroom instruction; 4) receipt of the read-aloud accommodation in classroom instruction and accountability testing; 5) receipt of the read-aloud accommodation in classroom instruction, but not in accountability testing; and 6) receipt of the read-aloud accommodation in accountability testing, but not in classroom instruction.

RQ 1B: Patterns of accommodation provision in high school and PSE for those provided accommodation(s) in both environments and those provided accommodation(s) in only one environment. Frequency counts were used to address RQ 1B. Among students for whom accommodations were reported, frequency estimates were calculated as follows: 1) receipt of any accommodation of interest in both high school and PSE; 2) receipt of any accommodation of interest in high school, but not in PSE; 3) receipt of any accommodation of interest in PSE, but not in high school.

RQ 2A: Association between advocacy and accommodation consistency. Multiple logistic regression was used to address RQ 2A. Two analyses were run. One analyzed the

predictive effects of parent advocacy and self-advocacy on read-aloud accommodation consistency across classroom instruction and accountability testing. The other analyzed the predictive effects of parent advocacy and self-advocacy on extended time accommodation consistency across classroom instruction and accountability testing. First, disability category was included as a control variable in the model for extended time consistency following a review of the literature and univariate Chi-Square screening. Next, variables reflective of parent advocacy were entered in both the extended time and read-aloud consistency models. Lastly, both models included variables that represented student self-advocacy.

Multiple statistics were calculated as part of the logistic regression analyses. In each analysis, block and model chi-square statistics were computed to assess model fit. The Nagelkerke R^2 statistic was computed to determine the percent of variation in the dependent variable explained by the independent variables in the model. Wald chi-square statistics and odds ratio (Expβ) statistics were also calculated to determine whether the effect of each independent variable on accommodation consistency was significant as well as the likelihood of accommodation consistency given the respective independent variable.

RQ 2B: Association between advocacy and continued accommodation provision.

Multiple logistic regression was used to address RQ 2B. One analysis was conducted to assess whether parent advocacy and self-advocacy predicted continued accommodation provision. First, students' reading achievement standard scores from the WJ III Passage Comprehension subtest and students' disability type (i.e., mental disability, sensorimotor disability, and other disability; discussed in the following chapter) were included as control variables. Next, variables reflecting parent advocacy were entered. Finally, variables reflecting self-advocacy were added. As with

the RQ 2A logistic regression analyses, the block and model chi-square statistics, the Nagelkerke R^2 statistic, and Wald chi-square and odds ratio statistics were calculated.

RQ 3: Association between continued accommodation provision and PSE persistence. For RQ 3, continued accommodation provision served as an independent variable to determine whether continued accommodation provision predicted PSE persistence via logistic regression analysis. The WJ III Passage Comprehension standard score was included first as a control variable, followed by inclusion of the continued accommodation provision variable. The block and model chi-square statistics, Nagelkerke R^2 statistic, and Wald chi-square and odds ratio statistics were calculated.

Qualitative Supplement

Following secondary data analysis, postsecondary students with high incidence disabilities and their parents participated in semi-structured interviews. To participate, the adult students with disabilities reported having been identified with a high incidence disability (i.e., ADHD, ASD, EBD, SLD, SLI) in K-12 or earlier; they also reported attending a PSE. Finally, students reported receiving disability-related school supports in both high school and PSE.

The interviews extended upon quantitative findings and more deeply explored these individuals' experiences in securing accommodation supports across educational settings. This ad-hoc exploratory approach used the quantitative analysis to inform the development of the interview questions. Specifically, interview questions were formulated based on the overall focus of the study and the unexpected findings of the secondary NLTS2 analysis, such as the significant negative association observed between student leadership in IEP/transition meetings and extended time accommodation consistency. The semi-structured interview was designed to last approximately 30 minutes, and the protocol contained four main questions for the student

and parent (Appendix B). The questions pertained to disability-related supports students received, with a focus on accommodations, as well as the participants' experiences with educational decision-making related to accommodation provision. Such an exploratory approach, with quantitative data analysis proceeding and informing qualitative data collection, has been used in a similar manner in prior research using NLTS2 data (e.g., Gronseth, 2011). It allowed for a richer investigation within this area of inquiry.

Participant Recruitment and Interview Procedures. Recruitment proceeded in two phases. First, study information was sent to college resource centers and regional advocacy groups serving individuals with disabilities for distribution to their organizations' listservs. Multiple attempts were made to contact representatives from the following organizations by phone and/or email regarding distribution of study recruitment information: one university disability resource center, three two-year college disability resource centers, one four-year college, one regional disability advocacy group, and one university student organization. Responses were limited to the university disability resource center and regional disability advocacy group. Second, individuals interested in the study were able to contact the researcher to determine final eligibility and schedule a time for the interview. Twenty current or former college students with disabilities expressed interest in the study, with two ultimately qualifying for participation. Given the low response, interested organizations were contacted again to redistribute recruitment materials or disseminate materials at a larger organizational level (e.g., for the disability advocacy group, at the statewide instead of community-wide level), and qualification criteria were reduced to no longer require parent participation. Interested students for whom parent participation was a potential barrier were re-contacted to determine continued study interest. Multiple rounds of flyer postings at a university campus were also completed to

advertise the study. One additional participant qualified for participation as a result of these efforts. These sustained recruitment efforts took place over approximately 5.5 months from the initial dissemination of recruitment materials by the disability resource center to recruitment being discontinued.

The researcher conducted the semi-structured interview with both the student and the student's parent, if possible. Participants completed the interview via phone or in-person. The researcher audio-recorded the interviews for later de-identified transcription. Each interview included the use of the semi-structured protocol to ensure the four main questions were addressed. Questions were rephrased, restated, or combined (e.g., a main question followed by a sub-question) as appropriate. Sub-questions were not asked if it was believed participants had already addressed them. When necessary, interviews included follow-up and clarification questions.

Participants included three students and two parents. Student 1 was a 26 year-old white male with autism spectrum disorder. Student 1 completed the interview with his mother. Student 2 was a 19 year-old white non-binary female with attention deficit-hyperactivity disorder. Student 2 completed the interview with her mother. Lastly, Student 3 was a 31 year-old biracial female with attention deficit-hyperactivity disorder. All students reported having received disability-related supports in high school and college.

Following interviews, transcripts were analyzed. Specifically, to identify codes and patterns among participants' responses, I used a semantic and theory-driven, or deductive, analytical approach. In this approach, I focused on using the RQ and relevant theory to identify patterns and emphasized the content of interviewees' responses in an attempt to accurately reflect their meaning of their experiences.

RQ 4: Exploration of students' and parents' experiences securing disability-related supports from high school to PSE. The thematic analytical process outlined by Braun and Clarke (2006; 2012) was loosely adapted for use in this study. This included a multi-phase method of analysis. In the first phase, I listened to the interviews multiple times. This phase also involved a verbatim transcription of audio-recorded interviews, with the audio recordings checked against the transcriptions for accuracy. In the next phase, initial coding (labeling) of the interview data took place, and I identified interview information pertinent to RQ 4. It was in this phase that interview data began to be organized via groups of similar data codes, which were manually generated. The following phase included the generation of patterns according to the codes developed. I next reviewed the data to ensure all codes were appropriate. In the subsequent phase, I confirmed each pattern in relation to the dataset. The final phase involved completion of the written analysis. The written product is presented in case study format, with summaries of the pertinent data patterns presented by student (Student 1, Student 2, and Student 3).

Summary

The primary aims of this study were three-fold: first, to assess the frequency of accommodation provision across educational environments; second, to explore the associations amongst parent advocacy and self-advocacy behaviors and accommodation provision across educational environments; and third, to analyze the association between continued accommodation provision and PSE persistence. To meet these aims, data from the NTLS2 were used to analyze students with high incidence disabilities' accommodation provision in high school and PSE. Frequency count and logistic regression were completed as part of the secondary analysis.

Additional qualitative analysis further explored student and parent perspectives in obtaining disability-related supports in high school and PSE. Based on quantitative analysis results, I developed a brief, semi-structured interview. This interview was administered to three PSE students with high incidence disabilities and two parents. The interview focused on student and parent experiences engaging with educational systems to secure disability-related supports, particularly accommodations, in high school and PSE environments.

CHAPTER 4

Results

The purpose of this study was to explore the associations among advocacy-related behaviors and accommodation provision across educational environments for students with high-incidence disabilities. Its aims were to address gaps in the research pertaining to how accommodations are provided across school settings as well as how patterns in accommodation provision may be associated with long-term academic outcomes for these students. Data analysis was comprised of two parts: a quantitative component followed by a qualitative component. First, frequency counts were calculated and logistic regression analyses were conducted using data from an extant dataset, the NLTS2. Second, ad-hoc interviews were conducted with three postsecondary students with high-incidence disabilities and two parents regarding their experiences in securing disability-related supports during high school and postsecondary education.

RQ 1A

RQ 1A: *To what extent are the extended time and read-aloud accommodations provided consistently across high school instruction and state accountability testing? When provided inconsistently, are the extended time accommodation and read-aloud accommodation reported more often during instruction or accountability testing?* To answer this question, frequency counts were calculated separately for extended time accommodations and read-aloud accommodations.

Extended time accommodation. Frequency counts for the extended time accommodation are reported in Table A8. Following application of all inclusionary criteria and listwise deletion, the sample size was $n = 630$. Of that sample, 50% of students were provided

the extended time accommodation consistently across classroom instruction and statewide accountability testing, while the other 50% of students were provided the extended time accommodation inconsistently (i.e., in one setting, but not the other). Of the students for whom the extended time accommodation was provided inconsistently, more students received the accommodation in classroom instruction (58%) than statewide accountability testing (42%).

Read-aloud accommodation. Second, frequency counts for the read-aloud accommodation are reported in Table A9. Following application of all inclusionary criteria and listwise deletion, the sample size was $n = 240$. Of that sample, 16% of students were provided the read-aloud accommodation consistently across classroom instruction and statewide accountability testing, while 84% of students were provided the read-aloud accommodation inconsistently. Of the students for whom the read-aloud accommodation was provided inconsistently, more students received the accommodation in statewide accountability testing (88%) than classroom instruction (12%).

RQ 1B

RQ 1B: *To what extent do accommodations continue to be provided in postsecondary education as in high school? When provided in one environment but not another, is receipt of any accommodations reported more often in high school or postsecondary education?* To answer this question, frequency counts were calculated.

Results are reported in Table A10. Students who did not provide responses to *any* of the high school or postsecondary education accommodation items were not included in the final sample. Following application of all inclusionary criteria and listwise deletion, the sample size was $n = 130$. Of that sample, 35% of students continued to be provided accommodations in postsecondary education as in high school. Sixty two percent of students received

accommodations in high school but did not go on to report receipt of accommodations in postsecondary education. A negligible proportion of students in the sample received accommodations in postsecondary education only. Data for this group of students were unable to be reported due to IES restricted dataset sample size requirements.

RQ 2A

RQ 2A: *Are parent advocacy and self-advocacy behaviors associated with consistent extended time and read-aloud accommodation provision across high school instruction and state accountability testing?* To answer this question, binary logistic regression analysis was separately conducted for extended time accommodation consistency and read-aloud accommodation consistency.

Extended time accommodation consistency. The extended time accommodation consistency dependent variable was analyzed in three logistic regression models. I entered the following blocks of variables sequentially into the models: control variables, parent advocacy variables, and self-advocacy variables. The control variable comprised the first, or control, model. Control and parent advocacy variables comprised the restricted model. Control, parent advocacy, and self-advocacy variables comprised the full model.

The statistical checks introduced in the previous chapter were completed for the RQ 2A extended time consistency logistic regression analysis. Following these checks, two notable findings were identified. First, a visual inspection of a histogram of the Parent School Involvement Scale variable determined its distribution was positively skewed. Although a non-normal distribution was not ideal, such that the analysis may have yielded less stable results and such a distribution was therefore a limitation of the model, researchers have noted that such a phenomenon does not prevent completion of logistic regression analysis (Knapp, 2018; Statistics

Solutions, n.d.). Therefore, logistic regression analysis was conducted with this stipulation noted herein. Second, due to small expected cell sizes, the Parent IEP variable was removed from the logistic regression model. The *n* quota (minimum $n = 90$) indicated an adequate sample size, and the Box-Tidwell test for the Parent School Involvement Scale variable was not significant, suggesting a linear relationship between Parent School Involvement Scale and the logit. As only one continuous variable was included in the model, assessment of multicollinearity among continuous variables was not completed.

The frequencies and descriptive statistics for the RQ 2A extended time accommodation consistency covariates are presented in Table A11 and Table A12. Following application of the inclusionary criteria and listwise deletion, the sample size was $n = 360$. Of the included cases, just over half reported having SLD (52%), 16% reported having ASD, 12% reported having EBD, 11% reported having ADHD, and 9% reported having SLI. The majority reported no participation in dispute resolution procedures (83%). Only 17% reported having participated in dispute resolution procedures. On the Parent School Involvement Scale, the average score was 3.76, with scores ranging from 0 (no involvement) to 12 (high involvement). With regard to self-advocacy related behaviors, just over half of the students reportedly provided some input during IEP or transition meetings (53%), followed by 31% with little or no participation, and 17% participating in a leadership role. Finally, teachers reported most students made support requests "well" or "very well" in class (63%), and over one-third made support requests "not well" or "not very well" (37%).

Control model. The control variable (Disability Type) was added to the first model. Results are reported in Table A13. The model chi-square was not significant compared to the null ($\chi^2 = 6.64$, $df = 4$, $p > .05$). The control model correctly classified 56.5% of cases, and the

Nagelkerke R^2 indicated 2.5% of the model variance was explained (Nagelkerke $R^2 = .025$). Disability type did not demonstrate a significant relationship with extended time accommodation consistency.

Restricted model. The parent advocacy variables (Parent School Involvement Scale, Dispute Resolution Participation) were added to the control variable in the second model. Results are presented in Table A14. The model chi-square indicated the restricted model was not significant overall compared to the null ($\chi^2 = 8.89$, $df = 6$, $p > .05$). Additionally, the block chi-square indicated addition of the parent advocacy variables did not significantly improve upon the first model in explaining the variance in extended time accommodation consistency ($\chi^2 = 2.25$, $df = 2$, $p > .05$). The restricted model correctly classified 57.3% of cases, an improvement of 0.8% above the control model. The Nagelkerke R^2 indicated 3.3% of the model variance was explained (Nagelkerke $R^2 = .033$), which was also an increase of 0.8% above the control model. Examination of individual variables yielded a lack of significant findings for both the control and parent advocacy variables.

Full model. The self-advocacy variables (IEP/Transition Meeting Participation, Support Request Quality) were added to the control variables and parent advocacy variables in the third and final extended time accommodation consistency model. Results are presented in Table A15. The model chi-square indicated the full model was not significant overall ($\chi^2 = 13.14$, $df = 9$, $p > .05$). Per the block chi-square, the addition of the self-advocacy variables did not significantly improve upon the restricted model in explaining the variance in extended time accommodation consistency ($\chi^2 = 4.25$, $df = 3$, $p > .05$). The full model correctly classified 57.9% of cases, a minor improvement of 0.6% above the restricted model. Nagelkerke R^2 indicated 4.8% of the

model variance was explained (Nagelkerke R^2 = .048), which was an increase of 1.5% above the restricted model.

Though the block and model were not significant, the following variables significantly predicted extended time accommodation consistency in the full model: speech and language impairment (Disability Type) and student leadership role (IEP/Transition Meeting Participation). Examination of odds ratios (Exp(β)) indicated that compared to students with specific learning disability, students with speech and language impairments were 56% less likely (or 0.44 times as likely) to receive the extended time accommodation consistently ($p < .05$). Additionally, compared to students with little or no participation in IEP or transition meetings, students who took on leadership roles were 50% less likely (or 0.50 times as likely) to receive the extended time accommodation consistently ($p < .05$).

Read-aloud accommodation consistency. The read-aloud accommodation consistency dependent variable was analyzed in two logistic regression models. I entered parent advocacy variables in the first block and the self-advocacy variables into the second block. Inclusion of only parent advocacy variables represented the restricted model, while inclusion of both parent advocacy variables and self-advocacy variables represented the full model.

Statistical checks were completed for the RQ 2A read-aloud accommodation consistency logistic regression analysis. The following two findings were identified, consistent with the extended time accommodation consistency statistical checks. First, a visual inspection of a histogram of the Parent School Involvement Scale variable indicated a positively skewed distribution. Though this represented a limitation for the RQ 2A read-aloud consistency logistic regression results, it was considered appropriate to complete the analysis (Knapp, 2018; Statistics Solutions, n.d.). Second, the Parent IEP variable was excluded from the analytical model due to

small expected cell sizes. However, the *n* quota (minimum $n = 50$) indicated an adequate sample size, and the Box-Tidwell test for the Parent School Involvement Scale variable was not significant, suggesting a linear relationship between Parent School Involvement Scale and the logit. As only one continuous variable was included in the model, assessment of multicollinearity among continuous variables was not completed.

The frequencies and descriptive statistics for the RQ 2A read-aloud accommodation consistency covariates are presented in Table A16 and Table A17. Following application of the inclusionary criteria and listwise deletion, the sample size was $n = 140$. Eighty-seven percent of the included cases reported not participating in dispute resolution procedures, while 13% reported having participated in such procedures. Parent School Involvement Scale scores ranged from 0 (no involvement) to 12 (high involvement), with an average score of 3.51. For the Student IEP/Transition Role variable, 58% of students provided some input, 31% engaged in little or no participation, and 11% held a leadership role. Finally, just over half of students were reported to have made in-class support requests "well" or "very well" (54%), while 46% of students were reported to have made in-class support requests "not well" or "not very well."

Restricted model. The parent advocacy variables (Parent School Involvement Scale, Dispute Resolution Participation) were added in the first model. Results are presented in Table A18. The model chi-square was not significant compared to the null ($\chi^2 = 3.58$, $df = 6$, $p > .05$). The restricted model correctly classified 81.9% of cases, and the Nagelkerke R^2 indicated 4% of the model variance was explained (Nagelkerke $R^2 = .040$). No individual variables were significant in predicting read-aloud accommodation consistency.

Full model. The self-advocacy variables (IEP/Transition Meeting Participation, Support Request Quality) were added to the parent advocacy variables in the second and final read-aloud

accommodation consistency model. Results are presented in Table A19. The model chi-square indicated the full model was not significant overall ($\chi^2 = 6.93$, $df = 5$, $p > .05$). Further, the block chi-square indicated the addition of the self-advocacy variables did not significantly improve upon the restricted model in explaining the variance in read-aloud accommodation consistency ($\chi^2 = 3.35$, $df = 3$, $p > .05$). The full model correctly classified 81.9% of cases, which did not result in an improvement beyond the restricted model. Nagelkerke R^2 indicated 7.7% of the model variance was explained (Nagelkerke $R^2 = .077$), an increase of 3.7% above the restricted model. No individual variables were significant in predicting read-aloud accommodation consistency.

RQ 2B

RQ 2B: *Are parent advocacy and self-advocacy behaviors associated with continued accommodation provision from high school to postsecondary education?* To answer this question, binary logistic regression analysis was conducted for continued accommodation provision.

Continued accommodation provision. The continued accommodation dependent variable was analyzed in three logistic regression models. I entered the following blocks of variables sequentially into the models: control variables, parent advocacy variables, and self-advocacy variables. Control variables comprised the first, or control, model. Control variables and parent advocacy variables comprised the restricted model. Control variables, parent advocacy variables, and self-advocacy variables comprised the full model.

Statistical checks were completed for the RQ 2B logistic regression analysis. As noted in the previous chapter, the sample for RQ 2B was expanded to all students with disabilities due small sample and cell sizes. The resulting 17-value Disability Type item was collapsed due to

small expected cell sizes into the following categories for inclusion in the analysis: mental disabilities (comprised of ASD, ADHD, developmental delay, serious emotional disturbance/behavior disorder [EBD], SLD, mild intellectual disability, moderate/severe intellectual disability, and traumatic brain injury), sensorimotor disabilities (comprised of deafness, hearing impairment, deaf-blindness, orthopedic impairment, and visual impairment/blindness), and other disabilities (comprised of multiple disabilities, other health impairment, SLI, and other disabilities). Categorization was based on relevant literature (e.g., Bolt & Ysseldyke, 2008; Howe, 2013; Pingry O'Neill et al., 2012; Schreuer & Sachs, 2014). Additionally, as with the checks in RQ 2A, a visual inspection of a histogram of the Parent School Involvement Scale variable indicated a positively skewed distribution. Guidance identified in the methodological literature suggested the analysis could be completed despite this limitation (Knapp, 2018; Statistics Solutions, n.d.). The Parent IEP variable was also excluded from the analysis due to small expected cell sizes. The *n* quota (minimum $n = 80$) indicated an adequate sample size, and the Box-Tidwell test for the Passage Comprehension Standard Score and Parent School Involvement Scale variables were not significant, suggesting a linear relationship between these variables and the logit. Visual inspection of the Passage Comprehension Standard Score variable histogram suggested a normal distribution. The check for multicollinearity of continuous variables, measured via Pearson correlation between the Passage Comprehension Standard Score and Parent School Involvement Scale variables, was satisfied.

The frequencies and descriptive statistics for the RQ 2B covariates are presented in Table A20 and Table A21. The final sample size, after application of the inclusionary criteria and listwise deletion, was $n = 200$. Of the included cases, just under half reported having a mental

disability (45%), while 37% reported having a sensorimotor disability, and 18% reported other disabilities. The Passage Comprehension Score control variable ranged from 1 to 146, and the average was 90.81. Eighty-four percent of cases reported no dispute resolution participation, and 16% reported participation in dispute resolution. The Parent School Involvement Scale ranged from 0 (no involvement) to 12 (high involvement), and the average was 4.64. With regard to the Student IEP/Transition Meeting Participation variable, 54% of cases reported some input, 23% reported engaging in a leadership role, and 23% reported little/no participation. For Student Support Request Quality, the majority of students were reported to have made in-class support requests "well" or "very well" (87%), and 13% were reported to have made in-class support requests "not well" or "not very well."

Control model. The control variables (Passage Comprehension Score, Disability Type) were added in the first model. Results are presented in Table A22. The model chi-square was significant compared to the null ($\chi^2 = 9.10$, $df = 3$, $p < .05$), indicating the model was significant overall. The control model correctly classified 60.9% of cases, and the Nagelkerke R^2 indicated 6% of the model variance was explained (Nagelkerke $R^2 = .060$).

Sensorimotor disabilities (Disability Type) significantly predicted continued accommodation provision in the control model. Examination of odds ratios indicated that compared to students with mental disabilities, students with sensorimotor disabilities were 158% (or 2.58 times) more likely to continue to be provided accommodations ($p < .01$).

Restricted model. The parent advocacy variables (Parent School Involvement Scale, Dispute Resolution Participation) were added to the control variables in the second model. Results are presented in Table A23. The model chi-square indicated the restricted model was not significant overall compared to the null ($\chi^2 = 9.46$, $df = 5$, $p > .05$). The block chi-square

indicated addition of the parent advocacy variables did not significantly improve upon the first model in explaining the variance in continued accommodation provision ($\chi^2 = 0.37$, $df = 2$, $p > .05$). The restricted model correctly classified 60.4% of cases, a decrease of 0.5% from the control model. Nagelkerke R^2 indicated 6.3% of the model variance was explained (Nagelkerke $R^2 = .063$), which was an increase of 0.3% above the control model..

Only sensorimotor disabilities (Disability Type) significantly predicted continued accommodation provision in the restricted model. Examination of the odds ratio indicated that compared to students with mental disabilities, students with sensorimotor disabilities were 166% (or 2.66 times) more likely to continue to be provided accommodations ($p < .01$).

Full model. The self-advocacy variables (IEP/Transition Meeting Participation, Support Request Quality) were added to the control variables and parent advocacy variables in the third and final continued accommodation provision model. Results are presented in Table A24. The model chi-square indicated the full model was not significant overall ($\chi^2 = 12.72$, $df = 8$, $p > .05$). The block chi-square was also not significant, suggesting the addition of the self-advocacy variables did not significantly improve upon the restricted model in explaining the variance in continued accommodation provision ($\chi^2 = 3.26$, $df = 3$, $p > .05$). The full model correctly classified 61.4% of cases, an improvement of 1% above the restricted model. Additionally, Nagelkerke R^2 indicated 8.4% of the model variance was explained (Nagelkerke $R^2 = .084$), an increase of 2.1% above the restricted model.

Among the variables in the full model, only sensorimotor disabilities (Disability Type) significantly predicted continued accommodation provision. That is, compared to students with mental disabilities, students with sensorimotor disabilities were 174% (or 2.74 times) more likely to continue to be provided accommodations ($p < .01$).

RQ 3

RQ 3: *Is continued accommodation provision across high school and postsecondary education associated with postsecondary education persistence?* To answer this question, binary logistic regression analysis was conducted for postsecondary education persistence.

Postsecondary education persistence. The postsecondary education persistence variable was analyzed in two logistic regression models. I entered the control variable in the first block and the continued accommodation provision variable in the second block. The control variable comprised the control model. The control and continued accommodation provision variables comprised the full model.

Statistical checks were completed for the RQ 3 logistic regression analysis. No notable findings arose. Visual inspection of a histogram of the Passage Comprehension Score variable suggested a normal distribution. The *n* quota (minimum $n = 20$) indicated an adequate sample size, and the Box-Tidwell test for the Passage Comprehension Score variable was not significant, suggesting a linear relationship between this variable and the logit. As only one continuous variable was included in the model, assessment of multicollinearity among continuous variables was not completed.

Additionally, frequencies and descriptives for the RQ 3 covariates were calculated. They are presented in Table A25 and Table A26. After application of the inclusionary criteria and listwise deletion, the final sample was $n = 100$. The Passage Comprehension Score control variable ranged from 48 to 136, with an average of 92.94. Sixty percent of cases reported discontinued accommodation provision from high school to postsecondary education (i.e., accommodation provision occurred in high school only), and 40% reported continued accommodation provision from high school to postsecondary education.

Control model. The control variable (Passage Comprehension Score) was added in the first model. Results are presented in Table A27. The model chi-square indicated the control model was not significant overall compared to the null ($\chi^2 = 0.57$, $df = 1$, $p > .05$). The control model correctly classified 74.7% of cases, and the Nagelkerke R^2 indicated 0.8% of the model variance was explained (Nagelkerke $R^2 = .008$). Students' passage comprehension score did not demonstrate a significant relationship with postsecondary education persistence.

Full model. The continued accommodation provision variable was added to the control variable in the second and final postsecondary education persistence model. Results are presented in Table A28. The model chi-square indicated the full model was not significant overall compared to the null ($\chi^2 = 1.48$, $df = 2$, $p > .05$). The block chi-square was also not significant ($\chi^2 = 0.91$, $df = 1$, $p > .05$). Thus, the addition of the continued accommodation provision variable did not significantly improve upon the first model in explaining the variance in postsecondary education persistence. The full model correctly classified 74.7% of cases, which reflected no change from the control model. Nagelkerke R^2 indicated 2.2% of the model variance was explained (Nagelkerke $R^2 = .022$), an increase of 1.4% beyond the control model. Examination of individual variables yielded a lack of significant findings in the full model.

RQ 4

RQ 4: What are the experiences of students and parents in securing disability-related supports from secondary to postsecondary education? To answer this question, interviews were conducted with three adult students with disabilities and two parents. Analysis was conducted using a deductive (i.e., theory-driven) and semantic approach, which focused on using the RQ and relevant theory to identify patterns in the data and emphasized the content of interviewees' responses in an attempt to accurately reflect their meaning of their experiences.

Student 1. Student 1 was a 26 year-old white male with autism spectrum disorder who completed the interview with his mother (Parent 1) by phone. In describing his high school disability support experience, Student 1 was able to identify multiple instances in which the supports he received differed across settings or were unique to certain situations. For instance, this student identified instances in which certain supports or environmental factors eliminated the need for other supports, such that the same accommodations were not needed across settings. For example, he described why he did not require extended time on tests, stating:

> I wouldn't get things like extra time, typically, because I didn't need it, because I had like, a quiet area to work with. I could usually get things done in the same amount of time as other students, so I never really worried that much about that.

Further, Student 1 expressed some autonomy in the use of supports provided to him, stating the following about high school tests:

> I was able to take them in classrooms separately from other people. Um, you- typically on request if I- if I really needed it, so I was able to take class- uh, I was able to take tests, um, by myself.

He also described the receipt of certain accommodations that were seemingly unique to a LINKS peer-to-peer program, noting, "LINKS students…would take notes alongside us, anything to like, help." Thus, actual accommodation use appeared to depend on environmental and setting-related factors, such as how certain accommodations were associated with other supports (e.g., LINKS). For this student, accommodations were not either always or never used; their use depended on context.

There were also instances in which this student continued to receive similar supports across settings. For instance, Student 1 alluded to receiving some of the same supports in college

as in high school, stating, “I was able to get, uh, like tutors for mathematics, uh, that I really needed, and I was able to get, um, similar accommodations before, being able to knock out of class early and attend classes, um, early…”.

Meanwhile, Parent 1 described her influence on the decision-making process for K-12 supports, noting how schools were receptive to her input. This included requests for or against supports, as she reflected:

> But we would do the IEP. Then I would say, well look at this, this, this, this, and that. And- Do you know what I’m saying? That would im- be implemented into the IEP and/or things removed. So they worked very well with us.

Student 1 also reported some engagement in the secondary disability support process, specifically in terms of brainstorming ideas:

> Well I was doing a lot of brainstorming, ‘cause we were, when we were in high school, I- like, so, if I talk- if think about, like, all the accommodations that I can go- if I even took a step back down to, like, uh, middle school or elementary school…I remember I was the one who spit-balled the idea for, um, establishing the token economy. Um, and, uh, um, when we were in high school, we had considered similar things, but you know, it was high school, and at that point, you can’t be, like, giving a lollypop to a kid…

Student 1’s participation shifted when he entered college, where he became more independent. He noted the challenges unique to this setting, stating, “At the college level, it was mostly me kind of like, wading through it and figuring it out. Um, by the time I was [at current college], I was pretty much handling it all on- on my own.” His mother concurred, reporting, “Once he got into college, he was, you know, leaps and bounds ahead of what I was involved in, which was all through his elementary, middle school, high school years.” In fact, Student 1

described how interactions with his college's disability support services helped him gain "a better understanding of what it meant to be a self-advocate."

This is not to say Student 1's mother did not have any effect on his postsecondary experiences. In fact, Parent 1 highlighted her role as an early model for Student 1's later advocacy efforts, noting:

> I'm the- the role model. I'm the person that he saw, good or bad, you know, depends on how people wan- people want to interpret my strong personality. By the time he got to college, or even in his high school years, uh, more so when- once he got to college, he had enough, um, he had eno- he wit- he witnessed enough over his entire lifetime to see how to advocate for himself…

In describing his experiences, this student's reflections on the supports he received tended to be positive. For example, Student 1 noted how his educational "freedoms" were still maintained within the school setting even with disability support provision. However, the supports provided over time eventually led him to reduce the number of accommodations used in college, with Student 1 explaining:

> After the first year, um, I kind of, um, eased myself out of, uh, using the accommodations, because I was trying to- and my mom could tell you about this, too, I started, uh, just feeling like I wanted to like work on myself and- because I'd gotten so much help at that point, and I felt more capable, and I felt more confident. I started concentrating on trying to become more independent and not, uh, use things if I didn't feel that I needed them."

Student 1's statement reflects the increased confidence in his abilities as a result of receiving accommodations and other disability supports in the past, such that he felt he could participate

within his postsecondary education institution without such supports. Thus, a lack of continued support provision into postsecondary education may be a positive consequence of the supports historically received.

Student 2. Student 2 was a 19 year-old non-binary, white female with attention deficit-hyperactivity disorder who completed the interview in-person, with her mother (Parent 2) participating by phone. Both she and her mother discussed the barriers they encountered when attempting to advocate for SAT accommodations in high school. Student 2's mother described her disappointment with the situation as well as how Student 2's performance suffered as a result of not receiving accommodations:

> We did try pretty hard, um, to get her some SAT accommodations. Um, they never really did give us a very good reason. They just kept saying we didn't have enough documentation, but she had like, a really long evaluation for her ADHD, or her ADD, um, diagnosis, so I felt bad. We were pretty frustrated about it. Um, she didn't end up finishing sections of her SAT but still did really good, so it just kind of was a bummer 'cause I think she could've done like, really, really well on the SAT had she had some accommodations.

Student 2 also gave insight into the outcomes of their attempts to secure supports, providing an incisive description of the negative interaction between her ADHD and testing environments:

> I definitely feel like in high school, it wasn't so successful, especially with the SAT. It was something that like, I was pretty bummed about, um, 'cause it was such a big deal. You know? And like, it's exactly like, the stakes that really bother me is like, being in a

> quiet room with a bunch of people making noises, and like, you know, dealing with like, the time pressure, obviously.

Parent 2 elaborated on this challenge, noting, “I would agree with what she said, that we weren’t very successful in high school, and we were very disappointed with that.”

Instructional accommodations, however, were more readily accessible. Organizational factors facilitated the student’s self-advocacy efforts and access to supports. Specifically, the participants attributed the ease of the support request process to small community size and staff familiarity. Student 2 reported:

> In high school, I didn’t really have very many, like, strict, like, written accommodations, ‘cause I went to a small school, so there wasn’t really, like, a lot of problems that I ran into. I would just talk to a teacher or whatever, and get the help from them.

According to Parent 2, Student 2 may have required even more accommodations than those provided, stating, “She always worked really super hard, um, on her studies and in high school. So I think that there would’ve been more she could’ve asked for but she really just wou– just didn’t.”

Further, despite informally accessing accommodations via direct interactions with teachers, Student 2 did not actively participate in formal disability support processes. This included 504 Plan meetings. Regarding her participation, Student 2 noted, “I don’t really remember being very involved in that, to be honest in high school. I feel like my mom kind of took care of that for me.”

Student 2’s college disability support experience appears to have differed drastically from her high school experience. She described it as follows:

> I just contacted the [disability services center], asked to set up an appointment, and like, went in and talked to them. And they're– They were super helpful. I basically went in and was like, hey, I got extra test time in high school. Like, I want to get extra test time in college. And they were like, okay, we can do that, and then like, let's talk about like, what else you can do. And so they kind of like, laid out like, here's your options. 'Cause they asked me like, what accommodations work for you, and I basically just said test time.

Student 2 went on to describe an increasing understanding of supports and her disability-related needs as she matriculated into college. She noted, "people were super just helpful, and like, kind of opened my eyes, to like, some other options and things that I can do to help myself." And Parent 2 was similarly satisfied with the postsecondary support process, noting:

> I was very pleasantly, um, surprised and happy with how great they– that process was in college. Like, that they were so helpful in suggesting things that she could utilize that would help her to– in college. That was really nice.

Student 2 also admitted to having certain preconceived notions regarding the disability support process as she entered college. She stated:

> I expected to go in there and like, them be very like, selective about what accommodations they give me. Like, because, it's like, oh, well you have this diagnosis, so we can only give you this…kind of a thing. But she was really like, she basically walked me through almost everything they have and was like, pretty much all of this is available to you, and like, that kind of thing. So it was more like, open than I expected.

As her statement illustrates, this student's preconceptions regarding the disability supports process did not detract her from advocating for desired accommodations.

In identifying the supports she received across environments, Student 2 described shifts in accommodations use over time, including increased accommodations in college relative to high school (e.g., "now I'm in college, I sometimes will do like, a separate room for testing, or like, um, I'll bring earplugs or something"). However, she also noted consistency in the provision of certain accommodations across settings as well (e.g., "I have…50% extra testing time, uh like, on rare occasions, I can extend like, uh, assignments").

Lastly, these participants described a lack of direct parent advocacy once Student 2 entered college, particularly in relation to parent involvement in high school, Parent 2 continued to assist indirectly with the support process. Specifically, Parent 2 reported the following about her student's college accommodations experience:

> I didn't have a lot of involvement, actually. She kind of took the bull by the horns and dealt with that. I think the only thing I did was did a little leg work in getting them like, the documentation we had up- up from up here.

Student 3. Student 3 was a 31 year-old biracial female with attention deficit-hyperactivity disorder who completed the interview by phone. In describing her high school disability support experience, Student 3's responses reflected a reluctance in the process. A dislike of supports translated to a lack of student involvement and, by extension, advocacy. She noted, "In high school, I mean, I didn't seek anything out in high school. I didn't want to be in special ed. I didn't talk about it. I didn't- I didn't- I didn't feel like I needed it." This student went on to elaborate on her disability support meetings, explaining how she attended but did not provide input:

> I- I don't think any specifically on accommodations 'cause I had no idea what special ed was. I didn't know that I needed it [inaudible] didn't think I needed it…I honestly- I can't

> remember, and I don't think I would have necessarily asked or specified anything because I was a super smart kid. I didn't need the academic help at all…

Furthermore, the supports Student 3 received appeared to be unique to specific classrooms, as she identified important differences in the settings where accommodations were – and were not – provided. She noted, "I got whatever accommodations I- I got within my, um, special ed classroom. I didn't have them like, in my regular classes."

As with other interviewees, Student 3 reported increased involvement in the disability support process in college. However, accommodations access was not immediate given misconceptions Student 3 had about the challenges she was experiencing. She originally believed her school difficulty was her own fault rather than something she may need assistance with due to her disability:

> The first like, two years I was in school, I didn't have them, and I kept like, not doing super well in school, and I wasn't- and I needed a lot of help, and I just thought it was my fault.

She went on to explain that her mother's encouragement spurred her to access college supports, noting, "So it was like, my mom convinced me to, um, go to the- you know, go to somebody and get accommodations, and so I went through the process. I did the whole thing myself." Thus, this parent served as a catalyst for Student 3's self-advocacy even beyond K-12.

Even though Student 3 ultimately accessed accommodations in college, the process was not necessarily easy. This student mentioned her difficulty understanding the process to access such supports, reporting:

> I think it should be easier, I guess, and more obvious on where to go and how to get disability support, 'cause maybe it was just me, but I didn't know. Like, I just kind of

> assumed, well now I'm an adult. I'm on my own. Like, there wasn't- you know, it isn't like high school, where somebody finds you, and, you know, is looking at your records and knows what you need. You have to make yourself known, which I think is new for a lot of people, who- especially who had IEPs or something their whole life, and their parents were always advocating for them. But for like, me who got into it later in life, I didn't- I really didn't understand the process that much, and like I said, I- I didn't even know really that I could get any help in college.

Her remark reflects the difficulties she faced as she transitioned to college. Her allusions to changes in disability law from high school to postsecondary suggest such a shift impacted her understanding of the disability support process in her new college setting as well as potential self-advocacy efforts.

Once Student 3 met with disability services, she experienced mixed success in obtaining the supports she desired. Specifically, she described her meeting as follows:

> I told them a list of things that I was struggling with, basically, and they said, well, these are the things we could do for you. And there were some things I wanted that they couldn't do, but, um, I told them that, you know, I had trouble sitting still in reading and focusing, and so- and I told them that I- I get anxious when I'm around lots of other people during tests, and it's hard for me to focus, so they gave me the accommodations that they could that kind of fit with that. It wasn't nearly like anything I would get in high school, but it was helpful.

Finally, Student 3 also described instances in which she requested supports outside those formally provided. Regarding her accommodations in college, she reported they were:

Almost exclusively test-specific, but there were some teachers that if I emailed them like, in advance and asked…they would sometimes work with me, but for the most part, it was just like, a- quizzes or tests. Um, if it were a project or something that was really involved, sometimes they would give me extra time on it- if I asked, but there wasn't anything built in for assignments specifically.

CHAPTER 5

Discussion

Accommodation use by students with high incidence disabilities serves an important function in terms of students' educational access, and it has been demonstrated to influence student success (e.g., Buzick & Stone, 2014; Gregg & Nelson, 2012; Howe, 2013). However, concerns have been raised about the potential drawbacks of inconsistent provision across settings (e.g., Ysseldyke et al., 2001). This study extends the current understanding of consistency in provision of common accommodations across school settings for students with high incidence disabilities by examining both levels of consistency and factors that may impact consistent accommodation provision. In the current study, I examined the high school advocacy-related behaviors of students with high-incidence disabilities and their parents and the provision of accommodations across educational settings through a secondary analysis of NLTS2 data. Following a quantitative analysis of these reported behaviors, supplemental interviews were conducted with postsecondary students with high incidence disabilities and their parents in order to better understand the associated advocacy and accommodation provision experiences of students and parents across these settings. This chapter includes a discussion of the study results. Limitations and implications of the current study as well as future directions for research are also reviewed.

RQ 1A: Patterns of Accommodation Provision Across High School Environments

Patterns of accommodation provision across high school accountability testing and instruction yielded low levels of read-aloud and extended time accommodation consistency. Results only partially aligned with the hypothesis for RQ 1A, as it was anticipated more students would receive the accommodations of interest during accountability testing rather than

instruction. Among students who received extended time accommodations inconsistently, just over half were provided the accommodation during instruction only. Conversely, nearly all students in the read-aloud accommodation sample who received this support inconsistently were provided the accommodation during accountability testing only. The high proportion of inconsistent accommodation provision suggests that in practice, individuals may not be aware that consistency is important for the academic access and success of students with disabilities (Cox et al., 2006). Students who did not experience consistent provision of accommodations may not have profited from these accommodations to the extent they could have had the accommodations been provided consistently.

The levels of consistency observed for extended time and read-aloud accommodations represented even lower consistency than that found in similar research examining patterns in general accommodation provision. For instance, research by Ysseldyke et al. (2001) on accommodation provision for elementary and middle school students with disabilities yielded an 84% "match" between accommodations provided in instruction and state testing. However, in that prior study, accommodation "match" reflected the consistent use of any accommodation by students with disabilities and was not specific to a certain type of accommodation. Results of the current study extend the literature and suggests that accommodation consistency may highly vary by accommodation type.

Though it is uncertain why students received extended time more frequently in instructional settings, one possible contributing factor could be the differences in expectations between instruction and statewide accountability test settings. For instance, Michigan Department of Education (MDE, 2019) reports its state tests are "untimed and student-paced. Therefore, students must be given as much time as they need to complete each session or part of

the test" (p. 3). Thus, an extended time accommodation would not be necessary in this setting, yet might be necessary within instructional settings.

There are a variety of reasons students who require the read-aloud accommodation during accountability testing may not have received this accommodation during instruction. Due to the nature of high stakes testing, teachers may want students with disabilities to receive as much support as possible, such as a read-aloud accommodation, regardless of whether it may truly be needed given a student's disability. Providing read-aloud accommodations regularly during daily instruction may also place additional stress on the limited resources teachers have, such that teachers may be unable to provide this accommodation regularly in the classroom setting. Providing a read-aloud accommodation during a once-a-year testing block, however, may require much fewer resources. Additionally, instead of providing a read-aloud accommodation in the classroom, teachers may modify material to match a student's instructional or independent reading level, which may allow them to access the curriculum in ways other than accommodations. Alternatively, teachers may utilize other means of presenting information during instruction (e.g., video, lecture), reducing the need for read-aloud accommodations in this setting.

Further information is needed to help explain these levels of inconsistency for the read-aloud and extended time accommodations. Identifying what may be contributing to inconsistent accommodation provision may in turn help inform efforts to increase accommodation consistency for students with disabilities. Additionally, it may be important to explore why there is such a high degree of variation in consistency of accommodation provision based on accommodation type.

RQ 1B: Patterns of Accommodation Provision Across High School & Postsecondary

Next, the patterns of overall accommodation provision across high school and postsecondary education environments were examined, with results aligning with the hypothesis of RQ 1B, in which it was anticipated students who received accommodations in only one setting would have received them in high school. Only approximately one-third of students continued to be provided accommodations in postsecondary education as in high school. The majority of students, almost two-thirds, reported receipt of accommodations in high school only.

There are many possible reasons for these patterns. First, results may reflect the transfer of responsibility in securing accommodations from schools and parents to students themselves. Unfortunately, the extent to which students are adequately prepared to self-advocate is limited (Test et al., 2005). Indeed, some scholars have attributed this decrease in accommodations use to students' lack of advocacy ability (Newman & Madaus, 2014). Next, students may be reluctant to access accommodations or unaware of accommodations available in college settings. This may reflect students' desire for independence from disability supports or a belief that previous supports received are no longer needed (Crosby, 2015). One student interviewee in the current study echoed a related sentiment when describing the reduction in accommodation supports he received in college relative to high school. Alternatively, students' course of study may impact the degree to which students with disabilities continue to seek accommodation supports in college. For instance, Monagle (2015) found that among college students with disabilities, liberal arts and humanities majors were more likely to pursue college accommodations than STEM majors.

In summary, RQ 1B results reflect a need to further explore this discrepancy. One avenue in particular may be to examine continued accommodation use by accommodation type. This

may help illuminate whether students pursue (and may thereby continue to perceive as helpful or meeting their needs) certain accommodations in college after high school. Another area to explore may be whether, and how, students met their disability-related needs outside of formal school supports (e.g., through informal requests from faculty or using personal accommodations – such as an e-reader or speech-to-text – instead).

RQ 2A: Advocacy & Accommodation Consistency Across High School Settings

Contrary to the hypothesis, none of the predictor variables – self-advocacy behaviors and parent advocacy behaviors – positively predicted accommodation consistency across instruction and statewide accountability testing. However, two variables – speech and language impairment (a control variable) and student leadership in IEP/transition meetings (a predictor variable) – were *negatively* associated with extended time accommodation consistency. These findings suggest that parent school involvement, student requests for classroom supports, and family involvement in dispute resolution processes are not necessarily predictive of consistent provision of accommodations.

The lack of significant results amongst student and parent advocacy behaviors may suggest the decisions of educational staff primarily impact decision-making as to whether accommodations are provided consistently. Interviewee reports in the current study suggest limited student involvement in determining what supports were provided, with disability support planning primarily the burden of adult IEP or 504 team members, such as parents or educational staff. Secondary NLTS2 frequency counts also indicated few students engaged in certain self-advocacy behaviors of interest, with just over half of students in the samples engaging in requests for classroom supports well or very well and less than one fifth of students in the samples taking on IEP or transition meeting leadership roles. The importance of educators in

accommodation decision-making has been illustrated in prior research, including a study by Shriner and Destefano (2003). They found that teachers adjusted the accommodations that were provided to students based on teachers' own perceptions of what students needed during the current school year, which at times deviated from the accommodations agreed on in IEP meetings. This even occurred despite teachers being trained on why and how to document accommodations students used during instruction and testing in students' IEP plans. Thus, educators may yield a high degree of control over whether – and when – accommodations are provided to students.

There may be various reasons for the decreased likelihood of extended time consistency for students with speech and language impairments. One reason may be that teachers informally provide additional time as needed during instruction for this group. Such teacher flexibility was described amongst interviewees in the present study, who described how some teachers provided additional time on assignments or assessments outside of formalized supports granted by students' schools. Alternatively, as previously discussed, some state accountability tests may have unlimited testing time (e.g., MDE, 2019), which would make extended time accommodations on these tests unnecessary.

Lastly, it was surprising that students who were reported to have taken on leadership roles in IEP or transition meetings were less likely to receive extended time accommodations consistently. Students who advocated by adopting leadership positions in these meetings may have been more academically or interpersonally skilled such that they had less need for extended time accommodations across multiple settings. Alternatively, students' limited understanding of disability supports may also contribute to their lack of desire for such supports. This was

illustrated in an interviewee's dislike of disability supports in high school, as she did not think she needed special education programs and services.

Though the advocacy behaviors in the current study did not positively predict accommodation consistency, it will be valuable to further investigate what might promote consistent provision of accommodation across settings. One possibility may be investigating whether teacher, student, and parent training on students' disability needs and the importance of consistency influences the degree to which accommodations are provided consistently in practice. If key stakeholders are educated on these areas, students may be more likely to receive meaningful supports across educational settings.

RQ 2B: Advocacy & Accommodation Provision Across High School & College

Neither parent advocacy behaviors nor self-advocacy behaviors demonstrated a significant association with continued accommodation provision from high school into college. This partially aligns with the hypothesis for RQ 2B, in which it was not anticipated that parent advocacy efforts would influence the likelihood of continued accommodation provision. These nonsignificant findings offer some support for the notion that these behaviors in high school are not related to continued accommodation provision into college.

The lack of association between parent advocacy and continued accommodation provision suggests that parent advocacy, as measured by parent-reported involvement in school and parent-reported participation in dispute resolution procedures, does not impact the likelihood of continued accommodation use by students into college. This is not to say that parents' advocacy efforts have no impact on students' college disability experiences, however. For instance, one parent interviewee discussed the lasting effects her advocacy behaviors had on her son's own advocacy for supports as he matriculated into college. Taken together, these results

extend research on parents' disability advocacy that predominately focuses on K-12 experiences (e.g., Bacon & Causton-Theoharis, 2012; Besnoy et al., 2015; Hutchinson et al., 2015). The differing findings between the NLTS2 results and interviewee reports suggest a potentially complex relationship between parents' advocacy behaviors and students' later experiences with disability supports. It may be beneficial for future research to explore how parent advocacy in K-12 specific to disability support provision impacts college accommodations access by students with disabilities.

Despite the lack of significant findings among predictor variables, there were positive relationships between certain control variables and continued accommodation provision that are worth discussion. This includes the positive association between sensorimotor disabilities and continued accommodation provision from high school to college. These results may be due in part to the "visible" nature of sensorimotor disabilities. The visible nature of these disabilities may more clearly display the ongoing need for accommodation supports from high school to college for this group of students than for students with mental disabilities, whose needs may be less clear-cut or apparent. On the other hand, students with mental disabilities may not have considered accommodations a continuing need upon entering postsecondary education, or they may have also been less aware of their needs (e.g., Lightner et al., 2012) or less prepared to advocate for them upon leaving high school (e.g., Cawthon & Cole, 2010). Given these findings, it may be important for researchers and practitioners to investigate and consider the needs specifically of students with mental disabilities as they matriculate into college. These students may require a higher degree of support and training on how to access supports and on what supports are necessary given their needs.

RQ 3: Continued Accommodation Provision & Postsecondary Education Persistence

Contrary to the hypothesis for RQ3, no significant relationship was demonstrated between continued accommodation provision and postsecondary education persistence (i.e., students' continued attendance or graduation). Thus, persistence was not more likely among students who continued to receive accommodations into postsecondary education compared to students who did not. This suggests that continued accommodation provision may not be an important factor in students' postsecondary education persistence.

The lack of significant association between continued accommodation provision and postsecondary education persistence may reflect reduced environmental barriers students experienced in college relative to high school. Students in the current sample may simply not have required formalized supports as they previously did in secondary school to be successful. Such a pattern is reflected to a degree in Lightner and colleagues' (2012) study exploring why students with specific learning disabilities delay obtaining disability-related supports in college. The researchers found that over a quarter of surveyed students who delayed accessing college supports until after their freshman year waited because "things were going well" (p. 150), such that there was not a perceived need for supports given students' ongoing success.

Current findings extend upon research examining the short-term effects of postsecondary accommodation use by shedding light on the negligible long-term impacts of accommodation provision on postsecondary success. Thus, though accommodations may help in the short-term, such as impacting students' GPA (Schreuer & Sachs, 2014) or initial college retention (Mamiseishvili & Koch, 2011), their continued use did not demonstrate a relationship with students' ongoing college retention or degree attainment. Other factors may be more important for degree completion, such as students' academic skills. Moreover, despite the increased

participation in postsecondary education of students with disabilities, the college enrollment rate of this group is only a fraction of that of students without disabilities (Newman, 2005). It may be that students with disabilities who go on to attend college are those with the skills to be successful in this environment regardless of the supports they receive, like accommodations.

RQ 4: Individual Experiences Obtaining Disability Supports

Though the experiences described by student and parent interviewees are unique to these individuals, coupled with findings from the analysis of NLTS2 data, the patterns in interviewee responses offer some insight into the quantitative results, extending existing literature as well as pointing toward possible next steps. A few patterns will be highlighted herein. These pertain to support and environment interactions, opinions on supports, understanding and navigating disability needs and supports, parental support over time, student engagement, and advocacy outcomes.

First, interviewees' descriptions of the interactions between disability supports and educational environments expanded on quantitative findings as participants described students' accommodation needs differing to some extent across instruction and testing. For these students, their perceived need for accommodations may have corresponded to certain accommodations being used in one setting but not another. This may help shed light on the low levels of consistency observed in RQ 1A and 1B. It may be beneficial for researchers to further explore differences in relationships between perceived versus actual accommodation need and accommodation use across settings.

Students and parents also provided candid perspectives and opinions on the supports provided. These included instances in which students did not desire supports available to them. For one student, this was due to the high degree of disability-related help previously received,

which impacted his continued use of accommodations into college. This student described a desire for independence from college disability supports following the high degree of support he received in K-12. This student's perspective is similar to previous research exploring the experience of students with disabilities. According to Lightner and colleagues (2012), a common theme amongst college students with learning disabilities who waited to access accommodations was a desire to establish "an identity independent of disability status" (p. 149). Students' prior experience with school disability supports may influence college disability support provision, as students may no longer desire supports they previously received.

Interviewees' reports of how they understood and navigated disability supports also helped to extend the NLTS2 results, which indicated high school advocacy was not associated with continued accommodation use. Through the interviews, students' understandings of supports appeared to impact their decision to advocate in high school and college, for better or worse. One student reported initially misunderstanding the necessity of supports to her success during college. She remarked how she initially thought it was inherently her fault she was experiencing academic difficulty rather than recognizing it was a lack of necessary and appropriate supports that was contributing to her struggles. Such challenges are consistent with existing research on college students with disabilities that suggests a lack of understanding may prevent them from accessing accommodations upon entering college (Crosby, 2015). This makes student training on disability supports and advocacy all the more important.

Importantly, the inclusion of parent perspectives helped extend accommodations literature on whether – and how – parents remain involved in supporting their student's disability needs as they matriculate into college. As documented in previous research (e.g., Gil, 2007), parents were not directly involved in obtaining accommodations once students entered college.

Regardless, interviewees in the current study discussed parents' lasting impact on their experiences as they matriculated through college. This included the importance of parents modeling advocacy behaviors over time as well as parents' distal involvement in postsecondary support access, such as encouraging their children to seek supports or providing their children with the necessary documentation to access college supports. In their study, Lightner and colleagues (2012) identified similar patterns, as "parents were noted to be a primary source of influence in seeking services" for students with specific learning disability who accessed disability supports upon entering college (p. 155). Thus, though parent advocacy in high school was not directly associated with continued accommodation provision, parents may still have important indirect effects on students' college disability experiences.

Students' engagement in the disability support process revealed possible explanations for the lack of association between self-advocacy and accommodation consistency among the NLTS2 samples. In general, students described very limited advocacy efforts in high school. Even when students reported attending disability support meetings during this time, it was not guaranteed they provided input into decision-making surrounding supports.

However, students occasionally described informal attempts to access supports directly from teachers, including supports outside those formalized in IEPs or 504 plans. A disconnect may therefore exist between accommodations accessed informally during instruction and those formally documented in support plans for accountability testing. If this was the case amongst students in the NLTS2 samples, such a discrepancy may have influenced analyses, which examined accommodation consistency across teacher-reported instructional accommodations and formally documented accountability test accommodations (e.g., in students' IEPs). Examining

the degree to which students seek different supports outside those formally provided, and the reasons why, may be useful in more accurately assessing accommodation consistency.

In describing advocacy for supports, interviewees alluded to positive relationships with service providers and educators at the high school and college level, in particular teachers' and schools' helpfulness with regard to support requests (e.g., when asked to provide accommodations, alerting students to additional accommodations they may benefit from, permitting students to use supports outside those outlined in disability support plans). Thus, organization receptiveness may impact the extent to which individual advocacy – like the behaviors examined in secondary NLTS2 analyses – results in accommodation provision across settings. Similar environmental barriers like college faculty receptiveness to support requests has been identified in previous research (e.g., Cawthon & Cole, 2010).

Limitations

Though there are benefits to using an extant dataset such as the NLTS2, including capitalizing on nationally representative and longitudinal data from multiple respondents, there also exist a variety of constraints inherent in its use. Chief among them are the descriptive and correlational analyses used, which precludes one from making causal inferences and makes it difficult to translate findings into recommendations for practice, as well as the lack of control over primary data collection methods and measures. The latter includes having to select existing items that best represent the variables being tested in lieu of using measures designed to directly assess constructs of interests, such as self-advocacy and accommodation use. There was not strong measurement precision in the current study as a result of these constraints.

In considering limitations of the current study, it is also important to take into account the age of the NLTS2 dataset itself. At present, the data collected via the NLTS2 are approximately

10 to 20 years old. Changes in education for students with high incidence disabilities, including the reauthorization of IDEIA (2004) and what researchers describe as an increase in the availability of educational technology in schools (Kormos, 2018), may diminish the ability with which one may generalize findings to today's classrooms. Though these changes are certainly necessary to keep in mind, there continues to be similar legislative mandates for the participation of students with disabilities in accountability testing as well as similar nationwide expectations for students' engagement in the general curriculum, thereby necessitating the need for appropriate supports across settings. In particular, accommodations remain an important means of adapting instruction and assessment in an era of high expectations for this group of students (Vanderbilt University, 2016).

Further, important details about aspects of accommodation provision were not available within the dataset. For example, respondents did not report on the frequency of accommodation provision, which may have influenced findings. If students were provided an accommodation during instruction, but only in rare circumstances, that would mean something very different than if they received it much more regularly during instruction.

Additionally, students' instructional accommodations were only reported by their first academic class of the week, and these settings may have been those in which the accommodations were not needed. In the case of extended time, there may be enough time built into instruction such that extended time was not necessary on classroom assignments or assessments. Alternatively, a student's first hour teacher may not have perceived some of the supports he or she provided as an accommodation. For read-aloud accommodations, with the increasing availability of technology in the classroom, such as computers, it may be possible for all students to access text-to-speech support when working on most academic tasks. Such access

may be considered a form of universal design for learning (CAST. 2018), and with regular access, teachers may not have perceived a specific need for a read-aloud accommodation.

It may have been the case in the current study that the domains in which students were being tested were areas in which the accommodations of interest were not needed. Students may not have required extended time during statewide accountability testing compared to instruction if tests did not have time limits and all students were afforded the time needed to complete testing. This may result in inconsistent reports of accommodations used across settings.

Within the NLTS2 dataset, there was inconsistency in the questions asked of different respondents. This made it inappropriate to combine cases for analysis for a portion of the sample. For instance, some items were not available across different measures. Specifically, students for whom Wave 1 high school data were pulled and whose parents completed the PY mail questionnaire instead of the PY survey were removed from the study samples. This is because some items of interest were not included in the mail questionnaire compared to the survey for that wave.

There was also no global measure of student achievement in the current study. The WJ III Passage Comprehension score served as a control of students' academic skill level. Previous researchers similarly used the WJ III Passage Comprehension subtest standard score as a control for achievement (e.g., Bottsford-Miller, 2008). Though students' reading ability may impact their achievement across academic domains, it is nonetheless not a composite measure of achievement that may have been more representative of students' skills.

Additional limitations of the quantitative analysis include small sample and cell sizes. Application of inclusion criteria led to a small sample size, which was further limited by complete-case analysis (i.e., removing cases with missing data, in which individuals did not

respond to items). The reduced sample sizes resulted in small cell sizes for certain variables, which limited the types of analyses possible.

Moreover, there exists a potential for inaccuracy in respondent reporting. For example, parents reported on student involvement in IEP meetings. Though parents are required members of IEP teams (IDEA, 2004), they may not necessarily attend IEP meetings. This may result in reporting based on conjecture for those who are unable to attend and directly observe the nature of their student's participation.

Though the advocacy behaviors that were measured occurred during high school, a proportion of students at the time of data collection were 18 or older. Parents of adult students may be unable to directly advocate for their children (e.g., via participation in students' IEP meetings, a variable of interest in the study) without the students' consent. Some measures reflecting parent advocacy may have been impacted by these legal shifts.

Lastly, limitations existed relative to the ad-hoc interviews. Specifically, the sample was very small and may not represent other perspectives. The background of the interviewed participants precludes generalizations to a broader population.

Implications for Research

Results of the current study indicated no significant positive relationships between advocacy behaviors and accommodation provision and consistency across settings, as well as low levels of accommodation consistency across environments. The general absence of associations between advocacy and accommodations points to a need to better understand why there were no relationships identified, as well as why inconsistencies exist. Below I offer several considerations for future exploration in these areas, including examining the importance of advocacy quality on accommodation use, exploring whether differences between actual versus

perceived accommodation need impact accommodation consistency across environments, and examining the influence of postsecondary disability support awareness on accommodation use into college.

First, current findings indicate that advocacy behaviors alone are not enough to impact accommodation consistency, as no significant positive associations between these variables were identified. However, research has demonstrated that when students with high incidence disabilities are trained on how to advocate, they are able to effectively access accommodations in the classroom (Lopez, 2016; Prater et al., 2014) and in fact may be more likely to do so. This may suggest that the quality of advocacy efforts (e.g., by way of knowledge and training on how to advocate) could have implications for accommodation use across settings. It may therefore be advantageous for future research to focus on the relationship between the quality of advocacy efforts and accommodation provision across educational settings.

Next, qualitative data suggest that student perception of accommodation need and helpfulness influences whether students access accommodations in school. Interviewees described occasionally engaging in attempts to advocate for or against supports they perceived as necessary or unnecessary. This included requesting supports outside those outlined in IEPs or 504 Plans. In some instances, these efforts seemed to influence the consistency with which students received accommodations. For example, one student described successfully requesting extended time *on assignments* despite this not being a formalized accommodation, when only extended *testing* time was part of her disability support plan. These findings may highlight a need to explore whether student perceptions are important indicators of accommodation need. It may also be beneficial to examine whether differences between actual versus perceived accommodation need influences accommodation consistency across environments.

Advocacy behaviors also did not demonstrate a significant association with continued accommodation provision from high school to college, and the vast majority of students who received accommodations in one environment but not another only received accommodations in high school. Such findings may be attributed to student confusion about availability of disability supports and how to access them when entering college. For example, one interviewee in the current study expressed difficulties in identifying available supports in college and pursuing supports only once she realized they were available to her after her mother told her. Thus, research investigating the effects postsecondary disability support awareness on the continued use of accommodations in college may be beneficial.

The limited accommodation consistency in the current study may suggest that educational expectations in the environments of interest – instruction and testing, high school and college – are different enough that students' accommodation needs truly vary from one setting to the next. For instance, timed tasks are often a core component of measuring students' skill fluency, as students must be able to perform a skill both correctly *and* quickly. Targeting fluency in one setting (e.g., instruction) without doing so in another (e.g., testing) may reflect a pedagogical mismatch as to what skills are considered important for students to build in order to be successful. It may therefore be important to examine whether such differences in expectations exist across settings, as it may have important implications for how accommodations are provided and – if different – whether educational expectations should be aligned.

Other macro-ecological influences may play a role in the consistent provision of accommodations. This includes the degree of resources available within a school district to provide supports regularly during daily instruction. Less affluent schools may not have the requisite funds to secure and provide supports for students who need them compared to wealthier

districts (Lippman et al., 1996). Researchers may then want to examine the impact of district resources on schools' ability to provide accommodations consistently to students with disabilities.

Implications for Practice

Results of secondary NLTS2 analysis as well as student and parent interviews provide multiple areas of focus for practitioners. First, this includes maintaining a focus on consistent provision of accommodations that are necessary for students based on their disability-related needs. Additionally, findings from the current study reflect the need for educators to identify and clearly communicate the conditions in which accommodations are necessary for students. It will also be important to increase advocacy training efforts for students in both secondary and postsecondary education settings. Relatedly, it is imperative that high schools and postsecondary institutions increase students' awareness of disability supports available to students as they plan for college. Each of these implications and how they are drawn from the findings of the current study are discussed in greater detail below, with additional guidance for families and schools outlined in table A29.

The high levels of inconsistent accommodation provision identified in this study underscore the importance of increasing practitioners' knowledge of accommodations and the need for consistency. This is important considering that consistent accommodation use across instruction and test settings may be important for students with disabilities' academic success (Cox et al., 2006). Moreover, prior research has shown that accommodation provision may positively impact students with disabilities' achievement in K-12 settings (e.g., Elliott et al., 2001; Elliott et al., 2009, Fletcher et al., 2009; Huynh et al., 2004).

Though interviewees described instances in which accommodations were informally accessed or provided on an as-needed basis, use of accommodations outside those outlined in disability support plans or provision of accommodations only in certain circumstances may create confusion as to what students actually need and can lead to inconsistent accommodation use. This inconsistency was reflected in the quantitative results of the secondary analysis of NLTS2 data, wherein frequency counts suggested IEP and 504 teams did not consistently provide accommodations to students across instruction and testing. Taken together, these findings may reflect a need for schools to more clearly document the conditions in which an accommodation is required, or the various options for accommodating the need, with corresponding documentation and flexibility articulated in how accommodations are described in a student's educational plan. For instance, one student interviewee explained how he did not require extended test time when he had a quiet setting available in which to test. In a case like this, it may be such that the IEP team could describe options to flexibly meet the student's needs across instruction and testing via multiple accommodation options.

The nonsignificant results between advocacy and accommodation consistency may be due to a restricted range in advocacy scores, given that few parents and students demonstrated high degrees of advocacy. Specifically, low levels of student leadership in IEP or transition meetings (ranging from 11% to 23% across study samples) and parents' involvement in school (with averages ranging from 3.51 to 4.64 on the 0-12 Parent School Involvement Scale) were observed. Students and parents may need encouragement and support in learning how to navigate engaging with staff in school settings, and in particular how to navigate engaging with staff in the disability support process.

In addition to a small proportion of students in the secondary NLTS2 samples taking on leadership roles in IEP or transition meetings, current interviews largely reflected a lack of student knowledge regarding their disabilities and supports in high school. This may reflect a lack of high school preparation for students to take ownership over their educational planning and by extension, their disability supports. Although not identified specifically in this study, potentially due to floor effects with so few students displaying specific advocacy skills, the importance of self-advocacy and accommodation use is supported by the literature. A variety of research has demonstrated the power of training both secondary and postsecondary students to self-advocate for accommodations in the classroom, which resulted in increases in requests for accommodations following training (e.g., Prater et al., 2014; Walker & Test, 2011; White & Vo, 2006). It is therefore important for students to receive direct support on how to advocate for supports in different settings.

Lastly, it may be beneficial for high schools and colleges to very clearly and specifically provide students with education on the availability of disability supports after high school, as frequency results suggest a precipitous drop-off in the number of students who went on to receive accommodations in college after high school. A delay in receipt of supports can result in student suffering, including possible declines in academic performance, as described by one interviewee in this study. Other researchers have also observed significant differences in the GPA of students with disabilities who access disability services early in their college education compared to those who waited until after their first year (Lightner et al., 2012). It is therefore important for both high schools and colleges to clearly discuss support options available to students with disabilities to ease the secondary to postsecondary transition.

Conclusion

In this study, I explored the relationships between parent and student advocacy behaviors and accommodation provision and consistency across educational environments. This was accomplished through analysis of secondary NLTS2 data as well as ad-hoc interviews of adult students with disabilities and their parents. The use of national data that tracked students over time allowed for a more rigorous and representative examination of students' experience with accommodations than what has been accomplished in prior research on this topic using cross-sectional local or regional samples in individual settings.

Results indicated a general lack of consistency in accommodation provision. Further, parent and self-advocacy behaviors were not positively associated with accommodation consistency or continued accommodation provision, nor was continued accommodation provision associated with postsecondary education persistence. Results of this study may suggest there are different expectations for or availability of supports across school settings that contribute to inconsistencies, regardless of advocacy attempts. Themes from parent and student interviews also reflect a lack of student understanding of their disability-related needs, which may contribute to inconsistent accommodation use. Low levels of student advocacy were observed in the current study, particularly as it pertained to student leadership in IEP/transition meetings, which may have impacted the ability to detect relationships between advocacy and accommodation consistency for some of the secondary analyses of NLTS2 data. Given the wide variety of literature available on the positive impacts of advocacy more generally, it may be important for educators to train students on how to advocate for accommodations and educate students on postsecondary disability support options available to them as well as for researchers

to explore whether assistance to students in these areas influences the degree to which students are provided accommodations in college.

APPENDICES

APPENDIX A

Tables

Table A1:

Quantitative Research Questions, Data Sources, & Analyses

Research Question (RQ)	Data Source	Analyses
1A. To what extent are extended time accommodations and read-aloud accommodations provided consistently across classroom instruction and accountability testing? When provided inconsistently, are: - Extended time accommodations provided more commonly during instruction or testing? - Read-aloud accommodations provided more commonly during instruction or testing?	Teacher Questionnaire (TQ): Items for supports provided to the student in class instruction School Program Survey (SP): Items for accommodations for mandated accountability tests	Frequency count: - Presence of extended time accommodations in only classroom instruction, only accountability testing, and in both classroom instruction and accountability testing - Presence of read-aloud accommodations in only classroom instruction, only accountability testing, and in both classroom instruction and accountability testing
1B. To what extent do accommodations continue to be provided in postsecondary education (PSE) instruction as in high school? When provided in one environment but not the other, are accommodations provided more commonly during high school or PSE?	TQ: Items for supports provided to the student in high school instruction PY: Items for accommodations received from 2-year college or 4-year college/university	Frequency count: Presence of accommodation provision only in high school, only in PSE, and in both high school and PSE

Table A1 (*cont'd*)

Research Question (RQ)	Data Source	Analyses
2A. Are parent advocacy and self-advocacy associated with consistency in: - Extended time accommodation provision across classroom instruction and accountability testing? - Read-aloud accommodation provision across classroom instruction and accountability testing?	Parent Advocacy: PY: Items for parent school involvement and family participation in mediation or due process Self-Advocacy: PY: Item for youth's role in IEP/transition planning TQ: Item for youth support requests TQ: Items for supports provided to the student in class instruction SP: Items for accommodations for mandated accountability tests, disability status (for extended time consistency models only: SLD, EBD, ADHD, SLI, ASD)	Binary Logistic Regression CV: Disability (extended time consistency model only) IV: Parent advocacy and self-advocacy DV: - Consistent extended time accommodation provision across classroom instruction and accountability testing - Consistent read-aloud accommodation provision across classroom instruction and accountability testing
2B. Among those who received accommodations in high school instruction, are parent advocacy and self-advocacy associated with continued accommodation provision in PSE instruction?	DA: Item for WJ III Passage Comprehension standard score SP: Item for disability category (mental, sensorimotor, and other) Parent Advocacy: PY: Items for parent school involvement and family participation in mediation or due process	Binary Logistic Regression CV: Achievement, disability type IV: Parent advocacy and self-advocacy DV: Continued accommodation provision from high school to PSE instruction

Table A1 (*cont'd*)

Research Question (RQ)	Data Source	Analyses
2B. (*continued*)	Self-Advocacy: PY: Item for youth's role in IEP/transition planning TQ: Item for youth support requests PY: Items for accommodations received from 2-year college or 4-year college/university	
3. Is continued accommodation provision associated with PSE persistence?	DA: Item for WJ III Passage Comprehension standard score PY: Items for accommodations received from 2-year college or 4-year college/university PY: Items for attendance status at 2-year college or 4-year college/university	Binary Logistic Regression CV: Achievement IV: Continued accommodation provision from high school to PSE instruction DV: PSE persistence

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A2:

Quantitative Analysis Inclusionary Criteria

RQ 1B	Cases will be included if they have data for any of the high school (W1, W2 TQ) and postsecondary education (W2, W3, W4 PY) accommodations of interest. Cases that do not have data for receipt of any of the high school or postsecondary accommodations of interest and cases for whom the accommodations of interest were neither provided in high school nor postsecondary education will be excluded.
RQ 2B	Cases will be included if they have data for any of the high school (W1, W2 TQ) accommodations of interest. Cases that do not have data available for any of the high school accommodations of interest will be excluded.
RQ 3	Cases will be included if they have data for any of the high school (W1, W2 TQ) accommodations of interest. Cases that do not have data available for any of the high school accommodations of interest will be excluded.

Note: Based on the small sample cell sizes calculated in the preliminary analyses, the sample for RQ 2B were expanded to include students with any disabilities instead of only students with high incidence disabilities to allow for statistical analysis.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A3:
Original Sample Characteristics (Wave 1 School Program Survey)

Characteristic	Frequency[a]	Percent
Total	5640	100
IEP/504 Receipt		
IEP	5310	94
504 Plan	40	1
Neither	210	4
Disability		
Autism	470	8
ADHD	170	3
Deafness	290	5
Hearing Impairment	210	4
Deaf-Blindness	20	<1
Developmental Delay	50	1
Behavior Disorder	270	5
Specific Learning Disability	910	16
Mild Intellectual Disability	320	6
Moderate/Severe Intellectual Disability	260	5
Multiple Disabilities	300	5
Orthopedic Impairment	270	5
Other Health Impairment	320	6
Speech Impairment	210	4
Traumatic Brain Injury	140	2
Visual Impairment	360	7
Other	90	2
Grade		
7^{th}	40	1
8^{th}	750	13
9^{th}	1210	22
10^{th}	1420	25
11^{th}	1150	20
12^{th}	600	11
Ungraded	370	7
Gender		
Male	3540	63
Female	2050	36
Income (Household)		
$25,00 and Under	1450	26
$25,001 - $50,000	1420	25
Over $50,000	1630	29
Ethnicity		
White	3680	65
African-American	1120	20
Hispanic	600	11

Table A3 *(cont'd)*

Characteristic	Frequency[a]	Percent
Asian/Pacific Islander	120	2
American Indian/Alaska Native	40	1
Other	30	1
Urbanicity (School)		
Rural	50	9
Suburban	2880	51
Urban	1930	34
Age		
14	930	17
15	1360	24
16	1500	27
17-18	1850	33

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A4:
Overall High School Sample Characteristics

Characteristic	Frequency[a]	Percent
Total	1260	100
Wave		
Wave 1	620	49
Wave 2	640	51
IEP/504 Receipt		
IEP	1250	99
504 Plan	10	1
Disability		
Autism	160	13
ADHD	110	9
Behavior Disorder	180	14
Specific Learning Disability	680	54
Speech Impairment	130	10
Grade		
9th	160	12
10th	350	28
11th	500	40
12th	240	19
Gender		
Male	870	70
Female	370	30
Income (Household)		
$25,00 and Under	320	25
$25,001 - $50,000	330	26
Over $50,000	410	33
Ethnicity		
White	870	69
African-American	200	16
Hispanic	150	12
Asian/Pacific Islander	10	1
American Indian/Alaska Native	10	1
Other	10	1
Urbanicity (School)		
Rural	130	10
Suburban	730	58
Urban	340	27
Age		
14	40	3

Table A4 *(cont'd)*

Characteristic	Frequency[a]	Percent
15	130	10
16	410	33
17-18	640	51
19-20	30	3

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A5:
Overall Postsecondary Education Sample Characteristics

Characteristic	Frequency[a]	Percent
Total	230	100
Wave		
Wave 1	70	31
Wave 2	160	69
IEP/504 Receipt		
IEP	220	96
504 Plan	10	4
Disability		
Autism	70	29
ADHD	20	8
Behavior Disorder	10	5
Specific Learning Disability	110	50
Speech Impairment	20	8
Grade		
9th	10	6
10th	40	18
11th	70	29
12th	110	47
Gender		
Male	160	71
Female	70	29
Income (Household)		
$25,00 and Under	20	10
$25,001 - $50,000	50	23
Over $50,000	130	58
Ethnicity		
White	180	78
African-American	20	11
Hispanic	20	8
Asian/Pacific Islander	10	2
American Indian/Alaska Native	-------	-------
Other	n/a[b]	n/a[b]
Urbanicity (School)		
Rural	20	10
Suburban	140	60
Urban	60	27
Age		
14	n/a[b]	n/a[b]

Table A5 *(cont'd)*

Characteristic	Frequency[a]	Percent
15	10	4
16	60	28
17-18	140	63
19-20	10	4

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
[b]Data omitted per IES restricted dataset sample size requirements.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A6:
Quantitative Analysis Variables

RQ	Label	Description (NLTS2 Source Items)	Values
1A	Instruction Accommodation	Provision of the accommodation of interest during classroom instruction. (nts*X*B8_*XX*)	0, 1
	Accountability Test Accommodation	Provision of the accommodation of interest during accountability testing. (npr*X*A5b_*XX*)	0, 1
1B	High School Instruction Accommodation	Provision of any of the accommodations of interest during high school instruction. (nts*X*B8_*XX*)	0, 1
	PSE Instruction Accommodation	Provision of any of the accommodations of interest during PSE instruction. (np*X*S3m_K6l_*XX*, or np*X*S5l_K8j_*XX*)	0, 1
2A	Disability Type[a]	Primary disability of student (ADHD, ASD, EBD, SLD, SLI). (npr*X*D2b)	1, 2, 3 …5
	Parent Advocacy	Whether parents: 1. Engaged in dispute resolution procedures. (np1D8c/np2D6f, np1D8e/np2D6h) 2. Were involved in their students' schools. (np1ParentSchInv/np2E1b_*XX*)	0, 1 0-12
	Self-Advocacy	How students: 1. Participated in IEP/transition meetings. (np*X*E3b) 2. Asked for supports in general education classes. (nts*X*C1_*XX*)	1-3 0, 1 0, 1
	Instruction-Accountability Test Accommodation Consistency	Whether students received the same accommodation of interest in classroom instruction and accountability testing. (nts*X*B8_*XX*; npr*X*A5b_*XX*)	

Table A6 (*cont'd*)

RQ	Label	Description (NLTS2 Source Items)	Values
2B	Achievement	Reading performance on WJ III. (ndaPC_ss)	0-200
	Disability Type	Student's primary disability category (mental, sensorimotor, other). (npr*X*D2b)	1, 2, 3
	Parent Advocacy	Whether parents: 1. Engaged in dispute resolution procedures. (np1D8c/np2D6f, np1D8e/np2D6h) 2. Were involved in their students' schools. (np1ParentSchInv/np2E1b_*XX*)	0, 1 0-12
	Self-Advocacy	How students: 1. Participated in IEP/transition meetings. (np*X*E3b) 2. Asked for supports in general education classes. (nts*X*C1_*XX*)	1-3 0, 1
	Continued Accommodation Provision	Provision of any of the accommodations of interest, received during high school, during PSE as well. (nts*X*B8_*XX*; np*X*S3m_K6l_*XX* or np*X*S5l_K8j_*XX*)	0, 1
3	Achievement	Reading performance on WJ III. (ndaPC_ss)	0-200
	Continued Accommodation Provision	Provision of any of the accommodations of interest, received during high school, during PSE as well. (nts*X*B8_*XX*; np*X*S3m_K6l_*XX* or np*X*S5l_K8j_*XX*)	0, 1
	PSE Persistence	Whether students currently attended or received a degree from the PSE institution versus left the PSE institution in Wave 5 or a previous wave. (np5PStat2yr_Ever or np5PStat4yr_Ever)	0, 1

[a]Variable included in RQ 2A extended time consistency models only.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A7:
Accommodations of Interest for Research Questions 1B, 2B, & 3

HS Accommodation Item Name	PSE Accommodation Item Name
More time in taking tests	More time in taking tests
Test read to student	Having tests and other materials read to youth
Additional time to compete assignments	Additional time to finish assignments
Physical adaptations	Physical changes in the classroom, special desks
Large print or Braille books or large print computer	Large print or Braille materials
Reader or interpreter	A reader or interpreter
Teacher aide, instructional assistant, or other personal aide	A personal aid or instructional assistant to help in class
Books on tape	Books on tape
Use of a calculator for activities not allowed other students	Special use of calculator
Use of computer for activities not allowed other students	Use of computer or spell check in class or to take tests
Computer hardware adapted for student's unique needs	Computer adapted for student's needs
Computer software designed for students with disabilities	Computer software designed for students with disabilities
Communication aids	Instructions given in sign language or manual communication
	Scribe to record answers
	Changes to equipment
	Note taker in class
	Different setting to take tests

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A8:
RQ 1A: Extended Time Accommodation Consistency Frequency Counts

Form of Accommodation Provision	Frequency[a]	Percent
Sample Total	630	100
Extended Time Consistency	320	50
Extended Time Inconsistency	320	50
Instruction	180	58
Accountability Testing	130	42

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A9:
RQ 1A: Read-Aloud Accommodation Consistency Frequency Counts

Form of Accommodation Provision	Frequency[a]	Percent
Sample Total	240	100
Read-Aloud Consistency	40	16
Read-Aloud Inconsistency	200	84
Instruction	20	12
Accountability Testing	180	88

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A10:
RQ 1B: Continued Accommodation Provision Frequency Counts

Form of Accommodation Provision	Frequency[a]	Percent
Sample Total	130	100
Continued Accommodation Provision	40	35
Accommodations Received in High School Only	80	62
Accommodations Received in Postsecondary Only	n/a[b]	n/a[b]

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
[b]Data omitted per IES restricted dataset sample size requirements.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A11:
RQ 2A: Categorical Predictor Variable Frequencies (Extended Time Consistency)

Variable	Frequency[a]	Percent
Disability Type		
ADHD	40	11
Autism	60	16
Behavior Disorder	40	12
Specific Learning Disability	180	52
Speech Impairment	30	9
Dispute Resolution		
Yes	60	17
No	290	83
Student IEP/Transition Meeting Participation		
Little/No Participation	110	31
Some Input	190	53
Leadership Role	60	17
Student Support Request Quality		
Not (Very) Well	130	37
(Very) Well	220	63

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A12:
RQ 2A: Continuous Predictor Variable Descriptives (Extended Time Consistency)

Variable	Frequency[a]	Percent	Minimum	Maximum	Mean	SD
Parent School Involvement Scale	360	100	0	12	3.76	2.83

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A13:
RQ 2A: Predictors of Extended Time Accommodation Consistency (Logistic Regression Control Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[b]	95% CI
Disability Type[a]						
Autism	0.37	0.31	1.37	.242	1.44	0.78-2.65
ADHD	0.08	0.36	0.06	.814	1.09	0.54-2.18
Emotional/Behavior Disorder	-0.22	0.34	0.42	.515	0.80	0.41-1.56
Speech/Language Impairment	-0.73	0.39	3.52	.060	0.48	0.22-1.03
Constant	0.17	0.15	1.39	.239	1.19	
n	Included = 360, Excluded = 280, Total = 630					

[a]Reference group is specific learning disability.
[b]Exp(β) = exponentiated β.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A14:
RQ 2A: Predictors of Extended Time Accommodation Consistency (Logistic Regression Restricted Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[c]	95% CI
Disability Type[a]						
Autism	0.39	0.31	1.52	.218	1.47	0.80-2.72
ADHD	0.15	0.36	0.18	.674	1.16	0.58-2.35
Emotional/Behavior Disorder	-0.17	0.35	0.23	.629	0.84	0.42-1.69
Speech/Language Impairment	-0.74	0.39	3.55	.060	0.48	0.22-1.03
Parent School Involvement Scale	-0.04	0.04	0.81	.369	0.97	0.90-1.04
Dispute Resolution[b]						
Dispute Resolution Participation	-0.34	0.29	1.39	.239	0.71	0.40-1.26
Constant	0.35	0.21	2.67	.102	1.42	
n	Included = 360, Excluded = 280, Total = 630					

[a]Reference group is specific learning disability.
[b]Reference group is no dispute resolution participation.
[c]Exp(β) = exponentiated β.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A15:
RQ 2A: Predictors of Extended Time Accommodation Consistency (Logistic Regression Full Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[e]	95% CI
Disability Type[a]						
Autism	0.31	0.32	0.95	.330	1.37	0.73-2.56
ADHD	0.13	0.36	0.13	.715	1.14	0.56-2.32
Emotional/Behavior Disorder	-0.28	0.36	0.59	.441	0.76	0.37-1.54
Speech/Language Impairment	-0.83	0.40	4.36	.037	0.44*	0.20-.95
Parent School Involvement Scale	-0.03	0.04	0.70	.404	0.97	0.90-1.05
Dispute Resolution[b]						
Dispute Resolution Participation	-0.34	0.30	1.32	.251	0.71	0.40-1.27
IEP/Transition Meeting Participation[c]						
Some Input	-0.22	0.25	0.79	.374	0.80	0.49-1.31
Leadership Role	-0.69	0.34	4.15	.042	0.50*	0.26-.97
Support Request Quality[d]						
Support Request Quality: (Very) Well	0.01	0.23	0.00	.970	1.01	0.64-1.58
Constant	0.60	0.31	3.91	.048	1.83*	
n	Included = 360, Excluded = 280, Total = 630					

[a]Reference group is specific learning disability.
[b]Reference group is no dispute resolution participation.
[c]Reference group is little/no participation.
[d]Reference group is support request quality: not well/not very well.
[e]Exp(β) = exponentiated β.
* $p < .05$
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A16:
RQ 2A: Categorical Predictor Variable Frequencies (Read-Aloud Consistency)

Variable	Frequency[a]	Percent
Dispute Resolution		
Yes	20	13
No	130	87
Student IEP/Transition Meeting Participation		
Little/No Participation	40	31
Some Input	80	58
Leadership Role	20	11
Student Support Request Quality		
Not (Very) Well	70	46
(Very) Well	80	54

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A17:
RQ 2A: Continuous Predictor Variable Descriptives (Read-Aloud Consistency)

Variable	Frequency[a]	Percent	Minimum	Maximum	Mean	SD
Parent School Involvement Scale	140	100	0	12	3.51	2.68

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A18:
RQ 2A: Predictors of Read-Aloud Accommodation Consistency (Logistic Regression Restricted Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[b]	95% CI
Parent School Involvement Scale	-0.06	0.08	0.49	.482	0.94	0.80-1.11
Dispute Resolution[a]						
Dispute Resolution Participation	-1.56	1.06	2.20	.138	0.21	0.03-1.66
Constant	-1.18	0.36	10.77	.001	0.31**	
n	Included = 140, Excluded = 90, Total = 240					

[a]Reference group is no dispute resolution participation.
[b]Exp(β) = exponentiated β.
** $p < .01$
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A19:
RQ 2A: Predictors of Read-Aloud Accommodation Consistency (Logistic Regression Full Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[d]	95% CI
Parent School Involvement Scale	-0.08	0.09	0.76	.383	0.93	0.78-1.10
Dispute Resolution[a]						
Dispute Resolution Participation	-1.46	1.06	1.89	.170	0.23	0.03-1.86
IEP/Transition Meeting Participation[b]						
Some Input	0.62	0.53	1.38	.240	1.85	0.66-5.18
Leadership Role	-0.81	1.13	0.52	.472	0.44	0.05-4.06
Support Request Quality[c]						
Support Request Quality: (Very) Well	0.04	0.45	0.01	.923	1.04	0.44-2.50
Constant	-1.50	0.56	7.14	.008	0.22**	
n	Included = 140, Excluded = 90, Total = 240					

[a]Reference group is no dispute resolution participation.
[b]Reference group is little/no participation.
[c]Reference group is support request quality: not well/not very well.
[d]Exp(β) = exponentiated β.
** $p < .01$
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A20:
RQ 2B: Categorical Predictor Variable Frequencies

Variable	Frequency[a]	Percent
Disability Type		
Mental Disabilities	90	45
Sensorimotor Disabilities	70	37
Other Disabilities	40	18
Dispute Resolution		
Yes	30	16
No	170	84
Student IEP/Transition Meeting Participation		
Little/No Participation	50	23
Some Input	110	54
Leadership Role	50	23
Student Support Request Quality		
Not (Very) Well	30	13
(Very) Well	170	87

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A21:
RQ 2B: Continuous Predictor Variable Descriptives

Variable	Frequency[a]	Percent	Minimum	Maximum	Mean	SD
Passage Comprehension Score	200	100	1	146	90.81	12.22
Parent School Involvement Scale	200	100	0	12	4.64	3.31

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A22:
RQ 2B: Predictors of Continued Accommodation Provision (Logistic Regression Control Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[b]	95% CI
Passage Comprehension Score	0.00	0.01	0.12	.730	1.00	0.99-1.02
Disability Type[a]						
Sensorimotor Disabilities	0.95	0.33	8.28	.004	2.58**	1.35-4.92
Other Disabilities	0.68	0.40	2.87	.090	1.98	0.90-4.37
Constant	-0.47	0.74	0.41	.522	0.62	
n	Included = 200, Excluded = 150, Total = 350					

[a]Reference group is mental disabilities.
[b]Exp(β) = exponentiated β.
** $p < .01$
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A23:
RQ 2B: Predictors of Continued Accommodation Provision (Logistic Regression Restricted Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[c]	95% CI
Passage Comprehension Score	0.00	0.01	0.12	.726	1.00	0.99-1.02
Disability Type[a]						
Sensorimotor Disabilities	0.98	0.33	8.59	.003	2.66**	1.38-5.12
Other Disabilities	0.66	0.41	2.62	.106	1.93	0.87-4.29
Parent School Involvement Scale	0.01	0.05	0.01	.906	1.01	0.92-1.10
Dispute Resolution[b]						
Dispute Resolution Participation	0.25	0.41	0.35	.553	1.28	0.57-2.88
Constant	-0.54	0.77	0.50	.481	0.58	
n	Included = 200, Excluded = 150, Total = 350					

[a]Reference group is mental disabilities.
[b]Reference group is no dispute resolution participation.
[c]Exp(β) = exponentiated β.
** $p < .01$
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A24:
RQ 2B: Predictors of Continued Accommodation Provision (Logistic Regression Full Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[e]	95% CI
Passage Comprehension Score	0.00	0.01	0.07	.798	1.00	0.99-1.02
Disability Type[a]						
Sensorimotor Disabilities	1.01	0.34	8.87	.003	2.74**	1.41-5.32
Other Disabilities	0.75	0.42	3.29	.070	2.13	0.94-4.80
Parent School Involvement Scale	-0.00	0.05	0.00	.982	1.00	0.91-1.10
Dispute Resolution[b]						
Dispute Resolution Participation	0.16	0.42	0.14	.710	1.17	0.51-2.66
IEP/Transition Meeting Participation[c]						
Some Input	-0.57	0.38	2.28	.131	0.56	0.27-1.19
Leadership Role	-0.22	0.45	0.24	.622	0.80	0.33-1.94
Support Request Quality[d]						
Support Request Quality: (Very) Well	0.28	0.46	0.38	.536	1.33	0.54-3.23
Constant	-0.35	0.96	0.13	.715	0.71	
n	Included = 200, Excluded = 150, Total = 350					

[a]Reference group is mental disabilities.
[b]Reference group is no dispute resolution participation.
[c]Reference group is little/no participation.
[d]Reference group is support request quality: not well/not very well.
[e]Exp(β) = exponentiated β.
** $p < .01$
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A25:
RQ 3: Categorical Predictor Variable Frequencies

Variable	Frequency[a]	Percent
Continued Accommodation Provision		
Continued	40	40
Discontinued	60	60

[a]Per IES restricted dataset sample size requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A26:
RQ 3: Continuous Predictor Variable Descriptives

Variable	Frequency[a]	Percent	Minimum	Maximum	Mean	SD
Passage Comprehension Score	100	100	48	136	92.94	17.42

Note: Frequencies calculated after conducting listwise deletion.
[a]Per IES requirements, sample sizes are rounded to the nearest 10 for reporting.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A27:
RQ 3: Predictors of Postsecondary Education Persistence (Logistic Regression Control Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[a]	95% CI
Passage Comprehension Score	0.01	0.01	0.57	.452	1.01	0.98-1.04
Constant	0.15	1.26	0.01	.905	1.16	
n	Included = 100, Excluded = 40, Total = 130					

[a]Exp(β) = exponentiated β.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A28:
RQ 3: Predictors of Postsecondary Education Persistence (Logistic Regression Full Model)

Predictor	β	S.E.	Wald	Sig.	Exp(β)[b]	95% CI
Passage Comprehension Score	0.01	0.01	0.48	.491	1.01	0.98-1.04
Continued Accommodation Provision[a]						
Continued	0.46	0.49	0.88	.347	1.59	0.61-4.15
Constant	0.05	1.26	0.00	.967	1.05	
n	Included = 100, Excluded = 40, Total = 130					

[a]Reference group is discontinued accommodation provision.
[b]Exp(β) = exponentiated β.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2). Selected years 2000-2009.

Table A29:
Guidance for Key Stakeholders

Students/ Parents	1. It may be beneficial for students and parents to ask school personnel what documentation is needed for disability support access in colleges of interest. Doing so at transition meetings, where post-school plans are discussed, may be particularly helpful. This may help foster a knowledge of students' rights (Test et al., 2005) as they matriculate from high school to postsecondary education and assist students in their preparedness to access postsecondary supports. 2. Students may benefit from asking themselves what supports work for them, and why. Engagement in this critical thinking may help increase students' knowledge of self (Test et al., 2005) so they can better understand what they from the disability support process as they transition to college.
High Schools	1. It may be beneficial for high school staff to ensure students understand what supports they are provided as well as ask for students' opinions and input regarding what works for them. Promoting more than passive attendance at disability support meetings gives students an opportunity to practice self-advocacy. Students with disabilities often do not demonstrate self-advocacy skills in K-12 (Fiedler & Danneker, 2007) or may expect to be passive participants in the disability process, with adults making decisions on their behalf (Prater et al., 2014). Training students to self-advocate has been shown to promote accommodation access (Prater et al., 2014) and is important for building self-determination, a characteristic targeted for development through OSEP initiatives (Wehmeyer, 1999). 2. To the extent feasible, it may be beneficial to ensure accommodations align across instruction and testing, as researchers have suggested this may promote student success above and beyond isolated accommodation use (Cox et al., 2006; Salend, 2008).
Colleges/ Universities	1. For students who seek out supports, it may be beneficial to provide training on how to request necessary supports in the classroom as well as what to do if such requests are denied. Previous research has indicated that difficulty navigating such scenarios may be one reason why students with disabilities do not access supports in college (Bolt et al., 2011; Cawthon & Cole, 2010). 2. Colleges and universities may benefit from clearly advertising the availability of disability supports for all incoming students so they are aware of how to access supports. Lack of awareness is one possible reason students may discontinue using accommodations after high school (Newman & Maudaus, 2014).

APPENDIX B

Interview Protocol

INTERVIEW PROTOCOL

Participant IDs: _____ (Student) _____ (Parent/Guardian)

Thank you for coming in today. I appreciate your participation in this research study. By conducting this interview, I am trying to learn more about what students with high-incidence disabilities and their parents do for those students to receive disability-related supports in school. The discussion of your experiences will help researchers better understand how students with high-incidence disabilities are supported in education and how students and their parents may shape educational support provision. Although I am interested in the broad disability supports you may have received in high school and college, I am particularly interested in your experiences with accommodations, so the more you can focus your responses on accommodations, the better.

Though neither your names nor the names of the schools [student] attended will be included in the study report, please try to avoid using names of people and places in the interview. Thank you.

1. To begin, tell me first a little bit about what accommodations or other similar supports [*student*] received in school.
    a. What accommodations did [*student*] receive in high school?
    b. What accommodations did [*student*] receive in college?
    c. Tell me about <u>when</u> [*student*] received those accommodation supports.
        i. Did [*student*] receive those supports only on class assignments?
        ii. Did [*student*] receive them during testing as well?

    Student: _____

    _____

    _____

    _____

    Parent: _____

    _____

    _____

    _____

    _____

Participant IDs: _____ (Student) _____ (Parent/Guardian)

2. Next, tell me about how decisions were made around the supports [*student*] received.
    a. Tell me about your level of involvement in high school meetings related to [*student*]'s disability, such as IEP/504 Plan meetings.
    b. How were you involved in obtaining supports in college?
    c. What kind of input did you provide on the accommodations [*student*] got in high school?
    d. What kind of input did you provide on the accommodations [*student*] got in college?

    Student: _____

    _____

    _____

    _____

    _____

    Parent: _____

    _____

    _____

    _____

    _____

3. How successful do you feel you were in your efforts to get the accommodations [*student*] needed in school?

    Student: _____

    _____

    _____

    _____

    _____

Participant IDs: _____ (Student) _____ (Parent/Guardian)

Parent: _____

_____

_____

_____

_____

4. Do you have other comments you would like to share today?

Student: _____

_____

_____

Parent: _____

_____

_____

Thank you. I have a few, brief background questions for you to end our discussion.

Demographic Checklist

Student	Parent/Guardian
Age: _____	Gender: _____
Gender: _____	Relation to Student: _____
Race/Ethnicity:_____	Email: _____ (*To send gift card if completing interview by phone*)
Disability:_____	
College Status: _____	

We are all done. Thank you again for taking the time to speak with me today!

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BIBLIOGRAPHY

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