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THE COLLEGE EXPERIENCE OF STUDENTS WITH DISABILITIES: DO TRANSITION PLANNING AND CLIMATE PERCEPTION RELATE TO ACADEMIC SUCCESS?

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THE COLLEGE EXPERIENCE OF STUDENTS WITH
DISABILITIES: DO TRANSITION PLANNING AND
CLIMATE PERCEPTION RELATE TO ACADEMIC
SUCCESS?

BY

PAIGE EVELYN RAMSDELL

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
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DOCTOR OF PHILOSOPHY DISSERTATION
OF
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ABSTRACT

College students with disabilities experience significant challenges during the transition from high school to college. Between changes in social and academic demands, along with differences in accommodations available at the college level, college students with disabilities are vulnerable to negative outcomes in postsecondary education. Transition planning at the high school level can help students prepare for and adapt to the demands of college. Additionally, perceptions of a positive campus climate are associated with better outcomes for students with disabilities. This study utilized a single school quasi-experimental design to investigate the relationship between quality of transition programming and college outcomes, including student engagement and effective learning strategies. Also investigated was the relationship between campus climate perceptions, student engagement, and effective learning strategies. Finally, differences in the reported experiences of students with various disability diagnoses were compared.

Participants were 190 undergraduate and graduate students enrolled at a four year public institution. All participants completed *The Student Engagement Instrument*, *The College Students with Disabilities Campus Climate Survey*, and *The College Learning Effectiveness Inventory*. The 85 participants who reported receiving special education services in high school also completed the *Quality of Transition Planning Inventory*. Higher quality transition planning was positively related to self-advocacy skills, perceptions of faculty teaching practices, and negatively related to feelings of stigma surrounding disability diagnosis. Self-advocacy skills were positively associated with a number of outcome variables, including cognitive engagement,

academic self-efficacy, emotional satisfaction, and GPA. Differences were noted in the reports of students with different disability diagnoses. Students with physical and sensory disabilities reported the most self-advocacy, and best perceptions of campus climate and faculty teaching practices, along with the least perceptions of stigma. Students with mental health disability diagnoses reported lower levels of peer support and perceptions of campus climate, along with higher levels of stigma associated with their diagnosis. Implications for practice for high school transition planning teams as well as college disability services personnel and faculty are discussed.

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This dissertation is lovingly dedicated in memory of my father, Robert Ramsdell, who would be thrilled to see my education come to completion.

TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	xi
Introduction	1
Overview	1
Statement of the Problem	4
Significance of the Study	5
Purpose of the Study and Research Questions	5
Review of Literature	7
Challenges Faced by Students Transitioning into College	7
Changes in academic demands.	7
The changing roles of parents and peers.....	8
Transition Challenges Unique to Students with Disabilities	11
Legislative differences between high school and college.....	12
Academic challenges.	14
Social.	17
Best Practices for Supporting Students with Disabilities in Higher Education 20	
Transition programming.	20
Office of Disability Services.....	23
Accommodations.	24
Faculty and Institutional Support.....	26
Defining and Measuring Important Skills for College Success	29
Student Engagement.	29
Effective Learning Strategies.....	31

Campus Climate.....	36
Present Research	38
Research Question One Hypotheses.	39
Research Question Two Hypotheses.	39
Research Question Three Hypotheses.	40
Research Question Four Hypotheses.	40
Research Question Five Hypotheses.....	41
Methodology	42
Setting	42
Participants	42
Measures.....	47
Quality of High School Transition Preparation Survey.....	47
College Students with Disabilities Campus Climate Survey.....	51
College Learning Effectiveness Inventory.	52
Student Engagement Instrument.....	53
Procedure	54
Results	56
Research Question One.....	58
Multivariate Analysis of Variance on Years in College and Campus Climate	58
Multivariate Analysis of Variance on Years in College and Effective Learning Strategies.....	58
Multivariate Analysis of Variance on Years in College and Student Engagement	59
Research Question Two	60
Multivariate Analysis of Variance on Campus Climate	60
Multivariate Analysis of Variance on Effective Learning Strategies	62
Multivariate Analysis of Variance on Student Engagement.....	63
Research Question Three.....	64
Correlations Between Transition Preparation and Campus Climate	64
Correlations Between Transition Preparation and Effective Learning Strategies	66
Correlations Between Transition Preparation and Student Engagement.....	67

Research Question Four	68
Linear Regressions Predicting Student Engagement	69
Linear Regressions Predicting Self-Efficacy and Emotional Satisfaction.....	70
Research Question Five	72
Hierarchical Multiple Regression Predicting GPA.....	73
Summary and Results of Hypotheses	74
Research Question One Hypotheses.	74
Research Question Two Hypotheses.	75
Research Question Three Hypotheses.	76
Research Question Four Hypotheses.	77
Research Question Five Hypotheses.....	77
Discussion	78
Summary of Findings	78
Strengths & Limitations	82
Implications for Practice	83
High school transition.	83
Disability services.....	84
Faculty and institutional.....	86
Future Research	87
APPENDICES	89
Appendix A	89
Participant Recruitment Information	89
Appendix B	92
Informed Consent Form	92
Appendix C	94
Demographic Measure	94
Appendix D	97
Quality of High School Transition Preparation Responses in Frequencies	97
Appendix E	101

College Students with Disabilities Campus Climate Survey Responses in Frequencies	101
Appendix F.....	104
College Learning Effectiveness Inventory Responses in Frequencies	104
Appendix G.....	108
Student Engagement Responses in Frequencies.....	108
Appendix H.....	110
Means and Standard Deviations of Campus Climate by Years in College.....	110
Appendix I	113
Means and Standard Deviations of Campus Climate by Disability Diagnosis	113

LIST OF TABLES

TABLE	PAGE
Table 1. Demographic Information for Participants	43
Table 2. Majors of Participants	45
Table 3. Varimax Rotation of Four Factor Solution for QTP Items	50
Table 4 . Summary of Research Questions and Analyses.....	57
Table 5. Intercorrelations Between Quality of Transition Preparation and Campus Climate	65
Table 6. Intercorrelations Between Quality of Transition Preparation and Effective Learning	66
Table 7. Intercorrelations Between Quality of Transition Preparation and Student Engagement.....	68
Table 8. Linear Regressions Predicting Affective and Cognitive Engagement from Campus Climate	70
Table 9. Linear Regressions Predicting Academic Self Efficacy and Emotional Satisfaction from Campus Climate	71
Table 10. Summary of Hierarchical Regression Analysis for Variables Predicting GPA	74
Table 11. Means and Standard Deviations of CSDCC by Years in College	110
Table 12. Means and Standard Deviations of CLEI by Years in College.....	111
Table 13. Means and Standard Deviations of SEI by Years in College	112
Table 14. Means and Standard Deviations of CSDCC by Disability Diagnosis	113

Table 15. Means and Standard Deviations of CLEI by Disability Diagnosis	114
Table 16. Means and Standard Deviations of SEI by Disability Diagnosis.....	115

LIST OF FIGURES

FIGURE	PAGE
Figure 1. Bar Graph of the Primary Diagnosis Identified for Each Participant.....	46
Figure 2. Bar Graph of the Secondary Diagnosis Identified for Each Participant.....	47
Figure 3. Responses on Campus Climate Scale organized by Disability Diagnosis ..	62

Introduction

Overview

Students leaving high school to attend college are at a key turning point in their lives. Many students entering college are leaving home for the first time and moving away from the family unit that has supported them thus far in their development. College students also encounter a variety of new social and academic challenges which require unfamiliar skills to navigate. For the first time, students are expected to independently manage interpersonal relationships as well as new and challenging academic demands. This newfound level of independence can be difficult for students to manage, particularly if they are not prepared for the changes that they are likely to face as they leave high school and begin their college careers. For the purposes of the present study, the term college transition will be used to refer to this period of time, while students acclimate to their new educational environment.

The transition to college brings with it a fundamental change in the format of education and the expectations that are placed on students in terms of independent learning; many students experience a decrease in grades from high school to college (Wintre et al., 2011). As they move away from home and family units, college students must also manage the changing roles of their parents and peers and a decrease in the social support that they are accustomed to in high school (Larose, Bernier, & Tarabulsky, 2005). However, it is important for parents to allow students to manage their own problems since interfering can have a negative influence on autonomy development (Cullaty, 2011). Navigating the new and different social challenges of

college, and successfully finding a new social support network is an essential piece of the college transition, and related to overall retention rates (Robbins et al., 2004).

While the above changes are challenging for typical college students, college students with disabilities face an even greater array of challenges during the transition from high school to college. Students with disabilities transitioning from high school to college must navigate not only the academic and social changes just described but also changes in the legislature that has been written to protect them (Madaus & Shaw, 2006). Additionally, some of their disabilities may have direct interactions with the new social and academic demands, making these even more challenging for them to navigate (Morgan, 2012).

Academically, students with disabilities may be entering college at a disadvantage, because of lack of access to college preparatory coursework (Hitchings, Retish, & Horvath, 2005), weaknesses in studying and test taking skills (Holzer, Madaus, Bray, & Kehle, 2009), or poor self-esteem in regards to their academic abilities (Hall & Webster, 2008). Socially, students with disabilities may be entering college more at risk for poor adaptation than their peers (Adams & Proctor, 2010). Students with mental health disabilities are particularly at risk, as they struggle more with the social tasks of transition than other students (Belch, 2011) and may be less likely to self-identify due to fear of stigma and being ostracized (Camara, 2011; Collins & Mowbray, 2005). Students with Autism Spectrum Disorders (ASD) are also particularly at risk for transition difficulties. Since these students struggle with making conversation and understanding social cues, they may experience social isolation in college (Adreon & Durocher, 2007).

Fortunately, despite the challenges faced by students with disabilities, there are ways in which these students can be supported through the transition from high school to college. Students with disabilities over the age of 14 who have an Individualized Education Plan (IEP) are required by the Individuals with Disabilities Education Act (IDEA) to have transition planning incorporated into their IEP (Madaus & Shaw, 2006). For the purposes of the present study, transition planning will refer to any information provided to the student in high school designed to inform them about what to expect in college. This may include activities such as participating in their IEP development, or instruction of self-advocacy or study skills necessary in college.

Once students have enrolled in college, the office of Disability Services assists them with accommodations once they have self-identified. In the present study, Disability Services will refer to any on-campus office which verifies the documentation of disability and assists students with academic accommodations in their courses. Additional on-campus supports for students are the faculty teaching their classes. In the present study, faculty will refer to any individual responsible for the instruction of a college course. Institutional support and disability training have shown positive influence on the knowledge and willingness of faculty to assist students with disabilities (A. R. Lombardi & Murray, 2011; Zhang et al., 2010), emphasizing the important role that institutional climate has on the support of students with disabilities.

Several important constructs have been identified within the literature as essential for success at the college level. Some of these constructs are internal to the student, such as their engagement. Others are related to the activities in which a

student participates to help them achieve the most out of their classes. Still others are external from the student, including the campus climate of the institution that they attend. Student engagement is often characterized as an essential element of success in college. In this study it will be defined as an active process by which students interact with the school environment and incorporate it into their lives. Also essential for success at the college level are effective study habits and learning strategies. These include skills such as time management and study strategies, as well as more emotion-based academic self-efficacy and perceptions of stress.

A positive campus climate is characterized by having students who feel that their campus is open to diversity and understanding of their needs. Studies done focusing on the climate perceptions of ethnic minority students have found that students who feel that their campus is supportive experience more persistence and success in college (DaDeppo, 2009; Edman & Brazil, 2009). Limited research exists as to the impact that campus climate perceptions have on students with disabilities, but what does exist indicates that perceptions of campus climate were positively related to course efficacy, social efficacy, and feelings of social support on campus.

Statement of the Problem

Students transitioning from high school to college experience a large number of changes that can make academic and social functioning difficult. These challenges are often exacerbated for students with disabilities, who may have fewer resources to cope with them. While there are supports and resources in place to help support students with disabilities through this transition, it is not clear how well they are working and what specific impact they are having on student readiness for college.

The present research intends to investigate the transition planning experience of students with disabilities, and the way it impacts college outcomes. Additionally, the impact that disability diagnosis has on the engagement, learning strategies, and climate perceptions will be investigated.

Significance of the Study

While a noteworthy body of research exists investigating the transition of students from high school to college, significantly less research is available that addresses specifically the experience of college students with disabilities. This group is at-risk for difficulty with both the increased demands as well as the decreased structure of the college curriculum. In addition to the lack of transition research on college students with disabilities, there is little research as to their development of crucial abilities, such as self-advocacy, effective learning skills, and engagement with both academic and social aspects of campus life. Finally, there is a lack of research on college students with disabilities, and differences between them. Many studies focus only on one type of disability; since disability services offices are serving students with many different disability diagnoses, valuable information could be gained by learning more about the different ways that disability diagnosis might impact the college experience.

Purpose of the Study and Research Questions

Information gathered from this study could be used to inform both high school transition programmers as well as college disability services providers as to what the key elements are for student success during the transition from high school and college

and beyond into the college years themselves. Key variables could be used to develop an intervention either at the late high school or early college level that would serve to educate college students as to the most effective ways to work towards success at the college level. The following research questions will guide the present study and provide information to the abovementioned groups to help support both high school and college students during the transition period.

1. Do the campus climate perceptions, effective learning strategies, or engagement of students with disabilities differ across the years of college?
2. Do campus climate perceptions, effective learning strategies, or engagement of students differ depending on disability diagnosis?
3. Does quality of transition planning relate to self-report of campus climate perceptions, student engagement, and effective learning strategies?
4. Do more positive perceptions of campus climate relate to higher cognitive and affective engagement or increased report of effective learning strategies?
5. Do campus climate perceptions predict grades after controlling for disability diagnosis and years of college?

Review of Literature

Challenges Faced by Students Transitioning into College

Changes in academic demands.

At the college level, students are expected to take a much more active role in processing the information in their courses (Wintre et al., 2011). In college, the student is the sole person responsible for their understanding of the course material. If they are having difficulty comprehending the material, they are expected to seek out help from a tutoring center or during their professor's office hours. Many college students also leave a highly structured environment in high school and at home and enter a completely unstructured environment in college. As a result, many students struggle with time management and course attendance, particularly if their courses are large lecture courses where they feel like they can skip unnoticed (Wintre et al., 2011). This fundamental change in the way academics are approached in college versus the way students are used to approaching academics in high school can make the college transition problematic, especially in terms of academic achievement.

Many students struggle to keep up their grades once they enter college. The transition to college can lead to a decrease in motivation (Grabau, 2011). Students who tended to fare better during the transition were students who were more motivated to learn than those who were more motivated to perform. In a study comparing the grades of first year college students to their high school grades, the majority of students saw a decline in their grade point average during the transition to college (Wintre et al., 2011). Fundamental differences were noted between students who maintained their grades versus students whose grades declined. Students who

maintained their grades were more likely to have more self-esteem and to report better adaptation to the college environment. These students also reported more time-management skills and more concrete plans for college. This finding indicates that students who managed the transition from high school to college better found a way to make the college environment work for them. Successful students were able to find strategies to manage their time and also develop concrete plans for their college experience.

The above predictors of grades in college are similar to those of a meta-analysis of college outcomes, which found that motivation and academic self-efficacy were the best predictors of grade point average (Robbins et al., 2004). It seems likely that students who were better able to make solid plans for their college experience found more motivation to stay with their plan in order to succeed. Further research indicates that both self-efficacy and self-concept predict academic performance (Choi, 2005), indicating that focusing on improving these in incoming students may be one way to enhance their academic outcomes.

The changing roles of parents and peers.

One of the primary social factors during the transition from high school to college is the lessening of parental influence and the increase in peer influence. Although this is a pattern that can clearly be traced through the years leading up to college, it is in college where most students first live away from home for the first time and are exposed far more to the influence of their peers than the influence of their families (Eccles et al., 1993; Larose & Boivin, 1998). The ability to successfully

navigate the changing nature of the relationship between college students and their parents is an important part of a successful transition to college.

Students who move away from home feel less social support on campus than they are accustomed to (Larose & Boivin, 1998). Additionally, these students also report feeling more loneliness and anxiety. These findings may also be related to the high incidence of both depression and anxiety reported by college students (Eisenberg, Gollust, Golberstein, & Hefner, 2007; Garlow et al., 2008). As they enter into a new social environment and encounter challenging academic demands, many students may struggle to adjust to all of these changes simultaneously. In discussing their expectations for moving away to school, students reported some disappointment in their social experience in college, mostly attributed to their relationships with their roommates (Keup, 2007). Understanding how to best support these students and reduce their risk of psychological distress is an essential piece of understanding how to ease the transition between high school and college.

Students who report better adjustment to living on campus also report feeling more secure in their relationships with their parents (Larose & Boivin, 1998). This indicates that although many college students are no longer living at home with their parents, their relationship with their parents still plays an important role in their academic success. For both male and female college students, parental warmth was found to predict grades in their courses. For female students only, parental supervision was also found to predict grades (Fulton & Turner, 2008). Even from afar, the parental influence can be seen on the ability of college students to successfully navigate the new situations that they will inevitably encounter, although

the type of relationship that parents have with their students predicts how well the students will cope.

Autonomous students tend to weather the transition to college better and end up with higher grades in their classes (Larose et al., 2005). These students are the students who manage to balance their own independence with their attachment to their parents. Students with preoccupied or dismissing styles tend to fare worse academically during the transition to college. These students are on opposite ends of the spectrum, with preoccupied students being overly attached to their parents while dismissing students avoid attachment with their parents. Preoccupied students report a fear of failure, less help seeking from their professors and other students, and place less priority on study time. Dismissive students also report worse attention in class and less preparation for exams but this is due to a decrease in the value they place on their classes rather than a fear of failing those classes (Larose et al., 2005). These results highlight the importance of balancing the importance of the relationship with parental figures with the importance of creating new relationships in college.

Additional research has re-emphasized the importance of supportive parenting, as it is a crucial element of autonomy development (Cullaty, 2011). However, at the opposite end, intervening when it is not desired is counterproductive and actually ends up interfering with autonomy development. It is essential for students entering college to be able to establish adult relationships without interference from their parents. Parents at this stage should be encouraging their students to be autonomous and surrender unnecessary control to optimize the development of their adolescent child (Cullaty, 2011). While it is not always easy for parents to allow their child to navigate

the challenges of college transition on their own, it is an essential learning experience to handle and negotiate challenges independently.

In addition to renegotiating their roles with their parents and peers, students entering college are very often leaving behind their high school social circle and need to find ways to find or create a new social support network. In a meta-analysis study, social support and social involvement were both found to be associated with college retention (Robbins et al., 2004). Above and beyond general social support and involvement, close friendships are also essential in order to make college students feel that they have someone to turn to. During the initial weeks of the transition from high school to college, having a close high school friend is significantly predictive of better adjustment (Swenson et al., 2008). Later on in the semester, having a close friend from college is a more significant factor. This combination of findings follows the shift of importance from feeling supported by a friend from home who knows you well to feeling supported by a friend at school who has a better understanding of your present circumstances. Both of these are essential in order for college students to feel that they have others that understand them, particularly during a potentially stressful transition.

Transition Challenges Unique to Students with Disabilities

The above research clearly outlines how the transition from high school to college can be problematic for typical college students. Significantly less research has been done as to how the transition from high school to college is experienced by students with disabilities, a group that enters college at-risk for academic difficulties (Mamiseishvili & Koch, 2011). The stress of transition may be higher for some at-risk

students, including students with disabilities (Grabau, 2011). In one study, students entering college with learning and attentional difficulties reported increased depression and anxiety levels from those they reported in high school (Nelson & Gregg, 2012). The difficulties encountered by students with disabilities stem from a number of complexities and changes, which all coincide with the start of college. First, there is a fundamental difference in the services that students with disabilities are eligible for, stemming from differences in the laws that protect high school and college students. Secondly, the new and more challenging academic demands faced by students with disabilities may be compounded by either poor secondary preparation (Gregg, 2007) or poor study and organizational preparation (Morgan, 2012). Finally, students may not be prepared to communicate their needs and interact socially with both their professors and their peers.

Legislative differences between high school and college.

High school students planning to attend college need to be aware of the supports and demands that they will encounter in the college environment as well as the skills that they should be working to develop while they are in high school (Janiga & Costenbader, 2002). It is important for high school students to understand that the supports they may be accustomed to in high school may no longer be available in the college environment.

Fuelling many of the differences in support that students receive in secondary as compared to postsecondary education is a fundamental difference in the laws protecting students. Once students graduate from high school, they are no longer eligible for protection under the Individuals with Disabilities Education Act (IDEA).

For students in K-12 education, the IDEA mandates access to a free and appropriate education to all students who have been diagnosed with a disability (Madaus & Shaw, 2006). Schools must provide an Individualized Education Program (IEP) for all students who have been classified with a disability. The IEP specifies the services and accommodations that the school is committing to provide to the student, along with any modifications that may be necessary in order for the student to be successful. Once a student turns 14, part of their IEP must be dedicated to transition planning and implementing supports to facilitate whatever the student and the IEP team determine to be the student's postsecondary plan. The IDEA also dictates that students are educated in the least restrictive environment. That is, if students are able to be successful within the general education classroom using supports and modifications, the law mandates that they are educated in that environment (Simon, 2011). One of the potential difficulties with this portion of the law is that students with disabilities may not be aware of the modifications that are in place for them. Since they are in a general education classroom with other students, students with an IEP may assume that they are receiving identical assessment when that is not always the case. This miscommunication often becomes more apparent as a student enters postsecondary education, where the laws that protect them change.

Students with disabilities at the college level are protected under the Americans with Disabilities Act (and its 2008 Amendments Act) in addition to Section 504 of the Rehabilitation Act. Although Section 504 covers both secondary and postsecondary students, its protection changes once students enter college. First and foremost, a student must meet all essential program requirements (Madaus & Shaw,

2004). Colleges are not required to modify any requirements that they deem to be essential to a program of study. Another significant difference in the law is the fact that the burden of proof of disability falls on the student, colleges are not required to provide students with testing if they did not receive an updated evaluation in high school. An IEP is not generally considered to be sufficient documentation of a disability, and many colleges and universities require that evaluations have been conducted within the past three years in order to consider them valid documentation of a student's disability (Simon, 2011). The ADA, along with its recent Amendments Act also reiterates some of the stipulations of Section 504. The first being that in order to be protected by the law the student must meet program standards and be otherwise qualified to attend the institution. This law also specifies that the university should not alter program or academic requirements as an accommodation for a disability (Simon, 2011). The ADA does require auxiliary aids, such as sign language interpreters, note-takers, or access to braille materials and academic adjustments such as course substitution if appropriate and extended time on exams and assignments.

Academic challenges.

A longitudinal analysis of risk factors for leaving school found that students with learning or attentional disabilities were at risk for leaving the institution due to poor grades or probation (Dong & Lucas, 2013). One study comparing students with and without disabilities through the transition to college found that students with disabilities transitioning to college did not adapt as well as their peers without disabilities (Adams & Proctor, 2010). Students without disabilities experienced better attachment and grades than did students with disabilities. The students with

disabilities who were able to transition better had better self-advocacy skills and more visible disabilities (Adams & Proctor). One reason for this may be that even more so than for students without disabilities, students with disabilities are entering college having had a significant amount of structured support at the high school level. Additionally, students with disabilities may have not had the same access to rigorous courses as students without disabilities. One study reported that some high school students with disabilities were not enrolled in or were switched out of college preparatory classes despite expressing interest (Hitchings et al., 2005).

A compounding difficulty is that there is evidence that students with disabilities entering college have fewer academic and study skills than their peers without disabilities. One study investigating an intervention for test-taking skills found that students with disabilities exhibit fewer test-taking skills and more test anxiety than students without disabilities (Holzer et al., 2009). Additionally, an investigation of students with ADHD transitioning to college found that they did not plan ahead and relied on their families to help them navigate (Morgan, 2012). To further compound the problem, these students did not use the resources available to them and were likely to feel that the college transition was stressful due to the responsibilities required of them. This is a key example of students with disabilities entering college who may be dependent on organization from external sources, and have less well developed study skills. The transition to a loosely structured academic environment, combined with a greater responsibility for tracking their own academic progress and seeking help as necessary is likely going to be especially challenging for this group of students as they work to navigate the college environment.

Making these difficulties with organization and study skills more complex, there is the predicament of self-efficacy and confidence in their abilities. Students coming in to college with learning or attentional disabilities may feel poorly about their abilities to succeed at the college level. In an optimistic finding, one study found that students with disabilities have a higher level of initiative than students without disabilities, particularly in their ability to be resilient (Hall & Webster, 2008). Unfortunately, the students with disabilities were found to have lower self-efficacy for their coursework, even when their grades and aptitude were equivalent to those of their peers without disabilities. This indicates that they may not have an accurate understanding of their abilities in college. Further evidence of this comes from a study where students with and without disabilities were surveyed regarding their perceptions of individuals with disabilities. Both groups most frequently reported the stereotype that individuals with disabilities have low intelligence (May & Stone, 2010). This study also found that students with disabilities were also more likely to view intelligence as fixed, making them less likely to seek out ways to improve academically.

Poor conceptualization of their academic abilities may have an impact on study skills as well. One study found that students with disabilities reported more procrastination and less self-regulation than students without disabilities (Klassen, Krawchuk, Lynch, & Rajani, 2008). The students who procrastinated more had less self-efficacy for learning, indicating that they were putting off school work due to their beliefs about their ability to complete it rather than on their actual ability to complete the work and perform as well as their peers.

Social.

While the transition to a new and unfamiliar social environment is a challenge for all students entering college, it can be especially difficult for students with disabilities. Students with disabilities are more at risk for difficulties during the transition from high school to college than those without disabilities, particularly in terms of their social adaptation (Adams & Proctor, 2010). Social aspects of the college transition have important associations with the overall experience of students at their institutions. DaDeppo (DaDeppo, 2009) found that social integration of students with disabilities was predictive of their intent to persist at the study institution. In fact, it was a stronger predictor of intent to persist than academic integration.

Just as some students with learning disabilities fail to access appropriate resources on campus to help them manage academically, students with disabilities also demonstrate a lack of help-seeking in other situations as well. Although students with disability diagnoses were somewhat likely to disclose their disability status to Disability Services staff or their peers, they were much less likely to disclose their disability status to housing and advising staff (Cawthon & Cole, 2010). This is counter to the fact that these individuals are important sources of support on campus who may be able to offer valuable assistance.

Some students with disabilities may also be overly reliant on social support from their parents. Students transitioning into college reported negative self-perceptions about their abilities (Smith, English, & Vasek, 2002). Additionally, some of their parents were extremely involved in the transition process. 38% of parents

were helping with course selection and 39% had input into the extracurricular activities that their student joined. While this might be appropriate at the high school level, it is less appropriate in college and may be preventing the student from developing essential organizational and planning skills.

One population of students with disabilities that is particularly at risk in terms of the social demands of the college transition is students with mental health disabilities. In a longitudinal study of retention, these students were most at risk of leaving after their first semester; despite being academically eligible, they did not re-enroll (Dong & Lucas, 2013). Anxious college freshmen were more likely to report loneliness and depression due to poor self-efficacy for social interactions (Wei, Russell, & Zakalik, 2005). Additionally, students with mental health disabilities report less engagement and poorer relationships on campus (Salzer, 2012).

Students with mental health disabilities may struggle more than typical students with the social-emotional tasks of transition (Belch, 2011). These students are more likely to have functional and social limitations than students with other types of disabilities. Additionally, they may be less likely to self-report having a disability due to the stigma associated with mental health disabilities. Another study suggests that these difficulties with the social-emotional tasks of transition stem from a lack of the appropriate coping strategies to handle the stress of transitioning to a new environment and social situation (Glass, 2010). Additionally, students with mental health disabilities may also experience difficulties with social integration on campus, and particularly the drinking culture if they are on medications that interact with alcohol (Glass).

Another investigation into the coping strategies of students with mental health disabilities indicates that students with mental health disabilities had poorer coping strategies than other students, but a comparable GPA (Yahaya, Ramli, Hashim, & Ibrahim, 2009). The research on the academic effects of the social difficulties of students with mental health disabilities seems to be mixed, although what may be more important than the day to day social interactions of students with mental health disabilities is their experience of stigma in their everyday lives.

Salzer (2012) found that students with mental health disabilities who felt they were often treated differently than other students were more likely to be disengaged and report poor relationships. Whether or not that perception is true, it speaks to the high level of stigma perceived by students with mental health disabilities. Many students with disabilities experience stigma, but especially those with mental health diagnoses (Camara, 2011). Additionally, students with disabilities fear disclosure due to the possibility of being stigmatized, and also lack knowledge about the resources that are available to them (Collins & Mowbray, 2005).

One disability that cannot be left out of the discussion is one that directly impacts the skills that students require to manage interpersonal relationships. Students with Autism Spectrum Disorder (ASD) diagnoses can have difficulty managing the myriad of new and sometimes unforeseen social interactions that they must navigate. Students with an ASD diagnosis can struggle with making conversation, lack of intonation in their speech, and a disregard for their conversational partner (Zager & Alpern, 2010). This can lead to difficulties with their college experience, including social isolation and being taken advantage of by other students (Adreon & Durocher,

2007). Students with ASD are more likely to experience social anxiety, particularly as the severity of their symptoms increases (White, Ollendick, & Bray, 2011). These difficulties often lead to poor reception by their peers, as one study found that students with no experience with ASD were less open to differences due to ASD than students with a family member diagnosed with ASD (Nevill & White, 2011). Although this population is a small population, they have the potential to be active campus contributors if given the appropriate supports and transition assistance.

Best Practices for Supporting Students with Disabilities in Higher Education

Transition programming.

Transition planning has historically focused on employment rather than education (Shaw & Dukes, 2013). Most literature has focused on demographics and policy, and not enough on evidence based ways to support students who wish to transition to a postsecondary institution. The literature that does exist indicates that there is much progress to be made in terms of improving the transition services available to students seeking postsecondary educational opportunities. Some literature does exist indicating what should be done for transition planning, but there is considerably less literature that indicates the effectiveness of those suggestions.

Many students feel as though are not adequately informed about the services that will be available to them in college (Janiga & Costenbader, 2002). Further difficulties that students encounter are a lack of self-advocacy skills and a lack of understanding their disability that make it difficult to request appropriate services to help them succeed in college-level courses. When surveyed about what should be included in transition programming, disability services professionals listed self-

advocacy skills, understanding of their disability, and study skills as being of paramount importance (Janiga & Costenbader, 2002). It is essential that the people responsible for preparing students for college are well-informed about the requirements of college as well as the skills and strategies that can be taught before college admission in order to help students prepare. Additionally, high school students need to be adequately preparing for college through the careful consideration of courses that they choose to take in high school; although the easier course may initially sound appealing, a more rigorous course will better prepare them for their college plans (Madaus & Shaw, 2004).

The above recommendations are echoed by other researchers, indicating that students should learn about their disability, about their strengths and weaknesses, and about the laws that protect them. (Skinner & Lindstrom, 2003). Additionally, they should learn about disability services at the college level, in addition to their new rights and responsibilities as college students. Students need to learn to take responsibility and self-advocate (Connor, 2012). Field & Hoffman recommend self-determination as a concept to frame transition planning around, in order to increase ownership and involvement (Field & Hoffman, 2007). Others recommend self-advocacy is an essential skill for transition (Barnard-Brak, Schmidt, Wei, Hodges, & Robinson, 2013). Whatever framework or concepts schools decide to focus on, there is no substitute for explicit instruction of some of these concepts, audio supported text did not produce the same understanding of rights and responsibilities and the accommodations process (Wood, Kelly, Test, & Fowler 2010).

In one particularly eye-opening study looking into the high school transition experiences of college students, most students could identify that they had a disability, but could not remember not when they were diagnosed (Cawthon & Cole, 2010). Furthermore, and perhaps most troubling is the fact that despite having IEP-level accommodations in high school, they could not remember participating in their IEP or transition planning. This is a strong indicator that either the appropriate emphasis is not being placed on transition planning at the high school level, or students are not seeing the importance of this planning until it is already too late and they have enrolled in a postsecondary institution.

One strategy that has been found to be helpful is the inclusion of students in the creation and implementation of their IEP. Student involvement in the IEP process has been linked to empowerment (Morningstar et al., 2010). High schools should encourage all students, but especially those planning to attend college, to be an active part of their IEP meetings. Students should be taught about their disability and the ways in which it impacts them, this will help them to enhance their ability to understand the supports that are necessary in order for them to be successful. Students should also be taught self-advocacy skills so that they are able to independently advocate for their needs once they leave the supports of high school. A significant relationship was found between transition programming that focused on these skills and students feeling more empowerment and hope once in college (Morningstar et al., 2010). Additionally, similar relationships were found between family support and these variables.

Office of Disability Services.

The disability services office is the gateway to services for students with disabilities. While it should not be the only on-campus resource available to students with disabilities, it does serve an essential function in the support of students. This office is responsible for helping make courses as well as the campus as a whole accessible to students with disabilities (Shaw & Dukes, 2013). The office of disability services collects documentation of disability from students and uses that documentation to inform reasonable accommodations to help ensure equal access to course material. For some students, housing and transportation accommodations may also be appropriate so that their disability does not impact those aspects of functioning on campus.

In addition to providing accommodations, Disability Services offices are responsible for a number of important tasks (Cory, 2011). They must work as consultants with faculty and staff, know and understand the law protecting students, work with students to access alternative media, work with emergent populations such as students on the autism spectrum and student veterans, and work to help disseminate the understanding of disability as part of campus diversity. Despite these many roles, the first and foremost priority for most Disability Services staff is the support of students with disabilities and assisting them get the most out of their postsecondary education.

One difficulty with providing support to students with disabilities in the postsecondary environment is the fact that students are not legally required to identify themselves to the office of disability services. This can pose challenges since many

students choose not to disclose their disability status on campus. One reason for this may be that students face a fear of stigmatization due to their disability (Belch, 2011). This may be particularly true for students with psychiatric disabilities. In this case, it is especially important for the office of disability services to be a presence on campus that encourages students to identify even if only for the information as to what supports are available to them. Offices of disability services are ethically obligated to make their presences known and reach out to students, whether or not the students choose to disclose their disability status. To complicate the problem, there are other students who do disclose disability status to the office of disability services but then choose not to request accommodations in their classes.

Accommodations.

It is important to gain an understanding of the reason that some students choose not to request accommodations in their classes, particularly if those accommodations could help them to be more successful in their courses. In one longitudinal study of the use of accommodations over time, requesting accommodations was associated with academic success, but only 10% of students with physical disabilities did so, and 33% of students with attentional or learning disabilities (Dong & Lucas, 2013). Many of these students waited until their third or fourth semester to request accommodations.

Students who sought accommodations earlier in the semester did better (Lightner, Kipps-Vaughan, Schulte, & Trice, 2012). However, the majority of students identifying to the Disability Services office did so as a direct result of an academic crisis. The authors found that students who were more proactive had more

transition services in high school (Lightner et al.). Other reasons that students reportedly waited to identify to disability services included wanting to move away from their disability in college, feeling confident about how their semester is going, and having very busy schedules. Other research indicates that students are less willing to seek help when they see their disability as stable, global, and stigmatizing (Hartman-Hall & Haaga, 2002).

In another self-report study regarding college student attitudes towards requesting academic accommodations, distinct factors were found which impacted the likelihood that a student would or wouldn't request accommodations (Barnard-Brak, Sulak, Tate, & Lechtenberger, 2010). The most endorsed factor by students was one relating to the academic integrity of their courses; students did not want to feel that they were receiving any advantage over other students in the course. Students also reported various levels of acceptance of their disability, the student and parental acknowledgement of their disability as something that warranted accommodations also contributed to their likelihood of requesting academic accommodations. Furthermore, some students did not want to disclose the fact that they had a disability to their professors. Finally, some students did not want to go through the accommodations process of their disability services office in order to receive academic accommodations. Some of the above reasons appear to be a product of misinformation, particularly in terms of the students who feel that accommodations put them at an advantage over the other students in their classes when in fact the exact opposite is true as the accommodations are designed to give all students an equal opportunity.

There is some variability in terms of the success of the accommodations requesting process that students participate in with their professors each semester. One study found that requesting accommodations is more successful if students are helped with a specific strategy developed from a self-advocacy framework (Walker & Test, 2011). Student self-report indicated that students who were successful in requesting accommodations from their professors employed a similar strategy and often had some sort of script that they worked from to explain their request (Barnard-Brak, Lechtenberger, & Lan, 2010). These students were more likely to negotiate with faculty rather than report them, and downplay their level of disability or go without accommodations if possible.

Faculty and Institutional Support.

University professors have a significant influence on the learning experience of students. Unfortunately, there is mixed information available as to the beliefs of faculty about students with disability. In one study, as faculty attitudes towards diversity increased, their attitudes towards students with disabilities decreased (Barnard, Stevens, Siwatu, & Lan, 2008). The authors argue that these faculty members do not see disability as a part of diversity, and also may have a deficit view of disability. Faculty training may help to see the links between disability and diversity. Disability training was found to have an impact on the willingness of some professors to provide accommodations in one study. Faculty who had more positive attitudes towards accommodations were more likely to be female, non-tenured, in the college of education, or have disability training (A. R. Lombardi & Murray, 2011)

Further research suggests that faculty should have knowledge and understanding of students with disabilities along with their needs in order to enhance their ability to support students with disabilities (Getzel, 2008). Professors also need to have an understanding of the laws that protect students with disabilities. In one study, faculty surveyed had limited knowledge of disability law, which may impede their ability or willingness to provide accommodations (Katsiyannis, Zhang, Landmark, & Reber, 2009). An additional study found that personal beliefs have the most impact on willingness to provide accommodations (Zhang et al., 2010). These beliefs are influenced by knowledge of the law and institutional support.

The importance of faculty interactions cannot be understated since students who feel supported and encouraged by faculty are more likely to seek help when classes get more challenging than students who do not feel that their professors are supportive (Hartman-Hall & Haaga, 2002). The liaison between disability services and faculty is also an essential piece of providing services to students with disabilities. Faculty who feel supported by their institution and disability services office are more likely to support their students with disabilities (Zhang et al., 2010). This indicates that faculty members who feel that they are collaborating with disability services to ensure equal access to their curriculum, as opposed to faculty who are being mandated to provide accommodations with limited support, are more likely to work harder to ensure that students with disabilities are able to be as successful as possible in their courses. In fact, one study found that students with disabilities in STEM majors actually perceived more positive faculty interactions than students without disabilities,

but experienced more difficulty accessing other supports on campus (Hedrick, Dizen, Collins, Evans, & Grayson, 2010).

Students report that faculty play a large role in assisting them with the implementation of their academic accommodations (Bolt, Decker, Lloyd, & Morlock, 2011). As noted above, faculty attitudes can also play a large role in the student's willingness to approach them about accommodations or about assistance if they begin to struggle. Fortunately, research shows that for the most part, college professors feel that it is their personal obligation to provide accommodations to their students with disabilities (Zhang et al., 2010). Faculty also have generally positive perceptions of students with disabilities and are willing to spend time supporting them (Murray, Wren, & Keys, 2008). In one study on student perceptions of faculty attitudes, students reported that they feel their professors have the most impact on their academic success, but that they lacked sensitivity (Wilson, Getzel, & Brown, 2000). Contrary to this finding, when disability services professionals were surveyed as to the things that faculty contacted them about, the majority of contacts were initiated when faculty wished for more information about disability and the best way to assist their students (Collins & Mowbray, 2005).

The final piece to the puzzle is an institution-wide commitment to students with disabilities, which is essential in order to enhance their sense of belonging on campus (Huger, 2011). Much in the way that minority students thrive in environments where they feel that diversity is encouraged and welcomed (Wei et al., 2005), so can students with disabilities also thrive in an environment where disability is seen as a form of diversity and learning and understanding of disability is encouraged. This can

be accomplished through university support of faculty development and also support of student services offices incorporating of disability needs and concerns into their strategic plans. Faculty need to feel supported by the institution as they work to provide accommodations to students with disabilities.

Defining and Measuring Important Skills for College Success

Despite the many challenges surrounding the college transition noted above, there is a considerable body of research on a number of psychological constructs related to student success and retention in college. If these constructs are incorporated into either the transition planning in advance of entering college or soon after a student enrolls, it may serve as an important protective factor to help ensure that they are successful.

Student Engagement.

One of the primary constructs that college faculty and administrators often focus on is student engagement. There have been many different conceptualizations of this construct, but one framework that helps conceptualize student engagement as interactions between a student and their environment seems to encapsulate many of them (Kahu, 2013). Kahu recommends contextualizing engagement in terms of both the influences as well as the consequences of engagement. Structural influences may encompass some aspects of the university or the student themselves, such as university policies and curricula or the student's background and family structure. More proximal influences are labeled psychosocial influences, such as professors and support at the university, or the student's level of motivation or self-efficacy.

Within Kahu's framework engagement itself is broken down into three subtypes (as is also recommended by (Lam, Wong, Yang, & Liu, 2012)). Affective, Cognitive, and Behavioral engagement are all encompassed under the broad term of student engagement. Affective engagement is linked to students feeling that they belong to a community and value the relationships that they have within that community. Cognitive engagement is related to a student finding value and being invested in their courses and academic work. Behavioral engagement is more easily observed, and related to actual tasks that a student performs to demonstrate that they are engaged (participation, interaction). Consequences of student engagement are separated into proximal and distal consequences. Proximal consequences consist of things like learning, and well-being. Distal consequences consist of more abstract concepts, such as personal growth, and lifelong learning.

Often in the literature, researchers opt to investigate only two of the three types of engagement: affective and cognitive, since behavioral engagement would typically be assessed differently as it is generally external and more easily observed than either cognitive or affective engagement. In contrast, many postsecondary institutions use the National Study of Student Engagement to quantify engagement with school. One of the critiques of this instrument is that it is designed to measure behaviors, but does not necessarily account for the cognitive and affective aspects of engagement (Axelson & Flick, 2010).

Student engagement has been linked to a host of positive outcomes at the college level. In one study, students who self-reported more engagement were rated higher on academic performance and conduct by their professors (Lam et al., 2012).

Additionally, cognitive engagement has been found to predict life satisfaction (Lewis, Huebner, Malone, & Valois, 2011). Emphasizing the importance of peers at the college level, engagement with peers and professors was predictive of career perceptions, but only peer engagement was predictive of GPA (Grier-Reed, Appleton, Rodriguez, Ganuza, & Reschly, 2012). Engagement was also found to be positively related to social support by the increased levels of problem-focused coping utilized by students (Alarcon, Edwards, & Menke, 2011). The above results show the positive influence that engagement can have on both academic and personal success. It may also serve as a protective factor whereby students who are more engaged cognitively and affectively may be more resilient to the difficulties that can arise during the transition to college.

Effective Learning Strategies.

Effective learning strategies are also essential for college students to be successful. Several constructs fall under this umbrella, all of which are related to increased success in college coursework. Kim et al. (2010) developed a measure of effective learning in college, which includes items to assess skill in several areas essential to success in college. These include: (a) time utilization, (b) strategic orientation and study approach, (c) academic self-esteem, self-efficacy, and confidence, (d) stress and emotional components, (e) student involvement with campus life, and (f) motivation and task relevance (Kim et al.). There is research relating each of these factors to positive outcomes at the college level.

Generally, time management and study skills are closely linked in the literature. There is evidence that students who have organizational and time

management skills are more likely to cope with the demands of a rigorous college curriculum; this is particularly true for students with identified disabilities (Collins & Mowbray, 2005). Additional research suggests that time management and time spent studying are both associated with GPA at the end of the quarter (Gortner Lahmers & Zulauf, 2000). Students who are encouraged or taught to use efficient time management and study skills may ultimately fare better during the transition to college level courses and expectations.

There is some evidence of a developmental trajectory for the acquisition of these skills. One study found that students in higher class levels used better time management and textbook study skills than students in lower class levels (Gregory, Horsham-Brathwaite, Queenan, & Skott, 2010). This indicates that as the students continue on in college, they are gaining skills in these areas that make them more effective students. Gender differences have also been found within the literature, with females reporting better time management skills than males (Misra & McKean, 2000).

Some research also exists on students who do not manage their time efficiently. One theory is that procrastination is due to a failure of the executive functions self-regulation and volition (Rabin, Fogel, & Nutter-Upham, 2011). These authors found that low scores on an inventory of executive functioning skills were significantly related to procrastination. Contrary to the above research finding that academic skills improve over time, one study found that self-regulation abilities did not develop as students gained more experience in college (Park, Edmondson, & Lee, 2012). However, the students who did report gains in self-regulation were able to adjust better to college life.

Another essential construct for learning effectively is academic self-efficacy, which is linked to more positive academic outcomes (Choi, 2005), particularly when assessed after the student has had some experience at the college level (Gore, 2006). Higher self-efficacy was also associated with better adjustment to college (Brady-Amoon & Fuertes, 2011) and retention (Mattern & Shaw, 2010). Students entering college with high self-efficacy and optimism do better than students with less confidence, even after accounting for GPA (Chemers, Hu, & Garcia, 2001). One study found a decline in self-efficacy over time, particularly for male students (Caprara et al., 2008). Students with less of a decline fared better academically.

Although self-efficacy is correlated with ability, it is a separate construct. Self-efficacy is a better predictor of academic performance than high school grades or SAT scores (Brady-Amoon & Fuertes, 2011). This may be related to the fact that students with high self-efficacy have a more strategic/deep approach to learning (Diseth, 2011; Prat-Sala & Redford, 2010). Students with low self-efficacy have a more surface strategy (Prat-Sala & Redford) and are more likely to want help with their courses (Mattern & Shaw, 2010). Another study found that self-efficacy was related to academic performance and goals (Brown et al., 2008). These authors also found that past performance contributes to self-efficacy, which in turn contributes to current performance.

Self-efficacy can be taught; one study of an intervention designed to increase the self-efficacy of students through cognitive behavioral therapy found increases in self-efficacy, vigor, and dedication to their studies (Bresó, Schaufeli, & Salanova, 2011). Another positive finding was that all self-efficacy variables in one study were

found to be associated with purpose in life (DeWitz, Woolsey, & Walsh, 2009).

Finally, self-efficacy can serve as a protective factor for minority and first generation college students (Vuong, Brown-Welty, & Tracz, 2010).

The impact that stress and emotional functioning of college students has on their overall college experience cannot be understated. Research exists that shows the relationship between stress and poor outcomes, and emotional functioning with better outcomes. Again, there appear to be developmental differences in the abilities of students to handle the demands of college. One study found that first and second year students were more susceptible to stress than third and fourth year students (Misra & McKean, 2000). Additionally, a gender difference emerged where females reported experiencing more stress than males. Stress management plays a role in academic success as well. When comparing successful to unsuccessful first year college students, adaptability and stress management predicted academic success very accurately (Parker, Summerfeldt, Hogan, & Majeski, 2004). Furthermore, decreased reports of stress predicted improved academic and social adjustment to college (Friedlander, Reid, Shupak, & Cribbie, 2007).

Additional research exists demonstrating the benefit of stress management. Students who used counseling and student support services on campus experienced better social adjustment to college (Grant-Vallone, Reid, Umali, & Pohlert, 2003). Emotional health was further found to have a positive impact on students adjustment to college. One study found that emotional and social adjustment were as good or better predictors of attrition than academic adjustment (Gerdes & Mallinckrodt, 1994). A study looking deeper into the impact of emotional functioning on college

adjustment found that alexithymia (the ability to be self-aware of one's emotions) predicted adjustment to college (Kerr, Johnson, Gans, & Krumrine, 2004). This research points to important factors that must be taken into consideration when investigating the college transition experience. Academics are only a piece of the transition experience; the social and emotional health of students appear to have just as much if not more of an impact on their ability to adjust to college.

One way in which students adapt to college socially is through the involvement in co-curricular activities, such as clubs and athletic teams. The research supporting this involvement appears to be strongly in support of the positive impact that involvement has on the college experience of students. A meta-analysis discovered that measures of student involvement were related to both retention and grades in college (Robbins et al., 2004). Additionally, in a longitudinal study of student involvement, students who were more involved in co-curricular activities developed more psychosocially and were also more involved academically (Foubert & Grainger, 2006).

Motivation is another key element to a successful college experience. In a meta-analysis study of key predictors for college success, motivation and self-efficacy were found to be the best predictors of grades in college (Robbins et al., 2004). In terms of the specific type of motivation that is the most beneficial at the college level, intrinsic motivation was found to be the most important skill predicting academic performance in college students (Griffin, MacKewn, Moser, & VanVuren, 2013). That is, students who are internally driven to learn for the sake of learning and understanding are more likely to perform well academically.

There are ways in which colleges can help to support the development of student motivation, primarily through their experience with faculty members on campus. Students who perceive professors as available, welcoming, and respectful are more likely to report both intrinsic and extrinsic motivation (Komarraju, Musulkin, & Bhattacharya, 2010). Further research has found that feeling supported in the classroom leads to feelings of belonging, which contributes to the academic motivation of students.(Zumbrunn, McKim, Buhs, & Hawley, 2014). Any way in which students can be encouraged to learn should be promoted on campus as a way to better engage students in the learning process.

Campus Climate.

A final construct that influences the success of college students is campus climate, which has been primarily investigated in terms of other minority students. A positive campus climate can be described as a place where students feel comfortable and advocated for by their institution. Students who feel more accepted and supported on their college campuses are more likely to persist and succeed (Edman & Brazil, 2009). One study mirrored this notion with the finding that academic and social integration on campus was not predictive of GPA but of intent to persist; social integration was a stronger predictor than academic integration (DaDeppo, 2009). African American students who felt more support of diversity on their college campus were more likely to persist in college (Love, 2011). Additionally, Latino students who felt that their culture was valued and supported were more likely to have positive academic outcomes in college (Edman & Brazil). Finally, the sense of belonging of

African American students was predicted by perceptions of racial climate on campus and also residence hall climate (Johnson, 2012).

The above findings emphasize the importance of ensuring that students feel safe and supported on campus. This influences not only their social perceptions of campus but also their academic success according to some studies. It stands to reason that if this relationship exists in ethnic minority groups, it is likely to also exist for other minority groups, such as individuals with disabilities. Limited research exists on the relationship between campus climate perceptions of students with disabilities and their academic outcomes. Some research indicates that students with disabilities believed that other people on campus perceived them as capable (Denny & Carson, 1994). Students with more positive perceptions of people perceived less resentment from others on campus. These researchers recommend several things to enhance the positive perceptions of campus climate by students with disabilities. These include faculty modelling behavior, using cooperation in classes, and removing physical access barriers. One college that implemented one of these suggestions found that a campus climate intervention with faculty, aimed at providing them with information about disabilities and the law, significantly increased their self-reported knowledge of laws and understanding of the students with disabilities on campus (Vogel, Holt, Sligar, & Leake, 2008). Other researchers have found that the climate that faculty provide in their classrooms can impact student ability to access their course material and request accommodations (Wilson et al., 2000).

One study that did evaluate the campus climate perceptions of students with disabilities found a number of significant correlates (A. Lombardi, Gerdes, & Murray,

2011). Overall perceptions of campus climate being a friendly and supportive place were related to both course and social efficacy, as well as feelings of social support on campus. Additionally, faculty using teaching practices that were inclusive and aided in understanding of the course material were also related to course and social efficacy and feelings of social support on campus. The strongest relationships were found between the self-reported self-advocacy skills of students with disabilities, which were also related to course and social efficacy and the feelings of social support on campus, highlighting the importance of self-advocacy skills at the college level.

Present Research

The above research outlines the difficulties that college students with and without disabilities encounter as they begin their college educations. There is limited literature available as to the transition of college students with disabilities from both the perspective of their transition planning in high school as well as the perspective of college experience. Furthermore, much of the literature that does exist only investigates one type of disability and does not encompass the broad variety of college students seeking services through Disability Services Offices. Research exists on the impact that student engagement and effective learning strategies have on success in college, but there is no indication as to the impact that transition programming might have on these variables. Perceptions of campus climate have been investigated in several minority groups, but the climate perceptions of students with disabilities have only just begun to be investigated. The extent to which these perceptions are related to engagement and learning strategies would add to the literature and clarify the importance of a positive campus climate for students with disabilities.

Research Question One Hypothesis.

Participants' year in college will have an impact on their report of campus climate perceptions, effective learning strategies, and engagement.

It is expected that as students gain more experience in college, they will report more positive perceptions of campus climate, enhanced use of effective learning strategies, and more student engagement. This is based finding that students were better able to self-report on their campus experiences after having had some exposure to college (Gore, 2006). Additionally, in regards to learning strategies, research has shown that practice of these strategies helps students become more competent in them, which is likely to increase their utilization of them (Gregory et al., 2010).

Research Question Two Hypothesis.

Participants' disability diagnosis will have an impact on their report of campus climate perceptions, effective learning strategies, and engagement.

It is expected that students with different diagnoses will experience campus in different ways. Students with mental health disabilities, such as anxiety, are likely to struggle more with the transition to college, particularly with regards to new social demands (Belch, 2011; Glass, 2010; Yahaya et al., 2009). It stands to reason that they may also be more likely to struggle in creating relationships and feeling that the campus climate is supportive of them. This may also influence their report of engagement on campus, making them likely to report less cognitive and affective engagement in college. Since the hallmark struggle that students with Autism Spectrum Disorders experience is one of understanding social norms, it is predicted that they will report poorer interpersonal relationships and less engagement on campus

than students with other disability diagnoses (Adreon & Durocher, 2007; Nevill & White, 2011; Zager & Alpern, 2010). Students with learning disabilities or ADHD are likely to be less organized and prepared for the initiative required of college students (Holzer et al., 2009; Morgan, 2012). Thus it is predicted that they will report less use of effective learning strategies than students with other disability diagnoses.

Research Question Three Hypothesis.

Quality of transition planning will be positively related to campus climate perceptions, engagement, and effective learning strategies.

The goals of transition planning include understanding individual strengths and weaknesses, understanding the laws that protect students with disabilities, and understanding how to access Disability Services in college (Skinner & Lindstrom, 2003). Each of these goals is designed to help the student with success at the college level. Since quality transition planning should be highly correlated with student engagement and effective learning strategies, the finding in the present study is expected to mirror that. It is predicted that students who report having had higher quality transition planning will also report feeling a more friendly campus climate, more engagement in school, and using more effective learning strategies to succeed in their classes.

Research Question Four Hypothesis.

More positive perceptions of campus climate will be related to higher cognitive and affective engagement as well as increased report of effective learning strategies.

Students with disabilities who perceive a more accepting campus climate were more likely to feel more efficacy towards their courses and social interactions, perceive more social support on campus, and feel more comfortable requesting accommodations in their courses (A. Lombardi et al., 2011; Wilson et al., 2000). Additionally, the research with other minority populations has found that students tend to have more positive academic outcomes when they feel a more positive campus climate (DaDeppo, 2009; Edman & Brazil, 2009; Love, 2011). It is predicted that students who report a more positive campus climate will also report being more engaged as students and using more effective learning strategies.

Research Question Five Hypothesis.

Campus climate perceptions will predict grades after controlling for year in college and disability diagnosis.

Students who perceive a more accepting campus climate tend to feel more efficacy towards their courses (A. Lombardi et al., 2011), and self-efficacy is strongly related to academic outcomes (Brady-Amoon & Fuertes, 2011; Brown et al., 2008; Choi, 2005). Thus, it is expected that campus climate perceptions will have a significant contribution to predicting GPA.

Methodology

Setting

The setting for the present study was a public university serving a diverse population of students. 2012 data indicate that the population of this institution is comprised of 70% Caucasian students, 8% Hispanic, 5% African American, 3% Asian, and 11% students of unknown ethnic backgrounds. Participants in this study were recruited through counselor meetings in the office of disability services, e-mail requests, and through signage in the Office of Student Life. In order to be eligible for this study, participants must have been registered as a student with a disability with the office of disability services. The disability services office provides accommodations to students with a variety of disability diagnoses. The 2012-2013 academic year data indicates that a majority of students (31.8%) identify ADHD as their primary disability. The second-most frequent identification is that of a mental health disability (21.2%), followed by specific learning disabilities (20.2%). Students with chronic health conditions make up 10.9% of the disability services population, followed by 5.3% with temporary disabilities. Smaller incidence disabilities include physical (2.4%), ASD (2.0%), head injury (1.7%), vision (1.2%), hearing (1.6%), and other (1.1%).

Participants

Recruitment e-mails were sent to participants at the end of the fall semester, and follow up e-mails were sent at the start of the spring semester. Additionally, informational cards were placed in the Office of Student Life in addition to in the

Table 1.

Demographic Information for Participants (N = 190)

	Frequency	Percent		Frequency	Percent
Gender			Residence		
Male	47	24.7	Residence hall	65	34.2
Female	142	74.7	Apartment or house	67	35.3
Other	1	.5	(not with parents)		
Ethnicity			Fraternity/ sorority	4	2.1
Caucasian	168	88.4	house		
African American	5	2.6	Live with parents	48	25.3
Asian	3	1.6	Other	6	3.2
Latino	6	3.2	Probation		
Pacific Islander	3	1.6	Yes	33	29.2
Other	5	2.6	No	155	82.4
Years in College			Dean's List		
1	31	16.3	Yes	104	55.3
2	30	15.8	No	84	44.7
3	43	22.6	How Started at URI		
4	37	19.5	Started as a		
5+	33	17.4	freshman	140	74.9
Graduate	15	7.9	Transferred from		
			2-yr college	19	10.2
			Transferred from		
			4-yr institution	28	15.0

offices of the Disability Services counselors. In Total, 220 participants accessed the research project through the link provided. Of those participants, 190 provided demographic data, and 170 completed the survey and entered the incentive drawing. Basic demographic information can be found in Table 1. Participants were mostly female (74.7%) and Caucasian (88.4%), but fairly well distributed across years in college. This trend is mirrored in much of the literature focusing on college students with disabilities, particularly in terms of the predominantly female sample. The smallest group of participants in terms of year in college was graduate students

(7.9%). The majority of participants started their undergraduate career as freshmen at the study university (74.9%); a smaller percentage transferred in from either a 2-year (10.2%) or a 4-year (15.0%) institution. In terms of living situation, participants were fairly evenly divided between living on campus in residence halls (34.2%) and living off campus in a house or apartment not with their parents (35.3%); a slightly smaller percentage (25.3%) reported living at home with their parents. Over half of the participants in this study (55.3%) reported having been on the Dean's List previously, and a minority of study participants (29.2%) reported having been on academic probation previously.

The average age of participants in this study was 22.75 (SD = 6.79), and the median age was 21 although there was a range of 18-67. Participants were generally high achieving, with an average GPA of 3.03, and a range of 1.0-4.0. Many college majors were represented in the present study, as can be seen in Table 2. Majors with the most students represented include: Biology (10%), Psychology (9.5%), Nursing (8.4%), Business (7.9%), Engineering (6.3%), Communication (5.8%), Pharmacy (5.8%), and Education (5.3%). Only 9 participants (4.7%) reported their major to be "Undecided".

Table 2.

Majors of Participants (N=190)

	Frequency	Percent
No Response	2	1.1
Anthropology	4	2.1
Art	1	.5
Animal Science	8	4.2
Biology	19	10.0
Business	15	7.9
Chemistry	1	.5
Communicative Disorders	2	1.1
Computer Science	5	2.6
Communication	11	5.8
Physical Therapy	2	1.1
Education	10	5.3
Engineering	12	6.3
English	5	2.6
Film	4	2.1
Geology	1	.5
History	2	1.1
Human Development & Family Studies	5	2.6
Human Resources	1	.5
Journalism	1	.5
Kinesiology & Nutrition	7	3.7
Language	1	.5
Library Science	1	.5
Natural Resource Sciences	6	3.2
Nursing	16	8.4
Pharmacy	11	5.8
Philosophy	1	.5
Physics	1	.5
Psychology	18	9.5
Sociology	2	1.1
Theater	1	.5
Textiles Merchandising & Design	5	2.6
Undeclared	9	4.7

Although all participants in the present study were registered with Disability Services for Students as having a disability, not all of them (44.3%) reported having had special education services at the high school level through an IEP or a 504 plan. Amongst the participants who had an IEP or 504 in high school, ADHD was the most common diagnosis (31.8%), with students also reporting learning (20.0%) and mental health disabilities (17.6%). Participants in the present study were also asked to identify if they carried multiple disability diagnoses. The distribution of primary diagnoses for all participants can be seen in Figure 1. The most common primary diagnosis of the participants in this study was ADHD (30.5%), followed by Mental Health (24.2%) and Health disabilities (15.5%). Half of the participants in the present study identified as having multiple disability diagnoses. Of these participants, the majority of them reported having a secondary Mental Health disability diagnosis (20%), followed by ADHD (12.6%), and learning (8.9%).

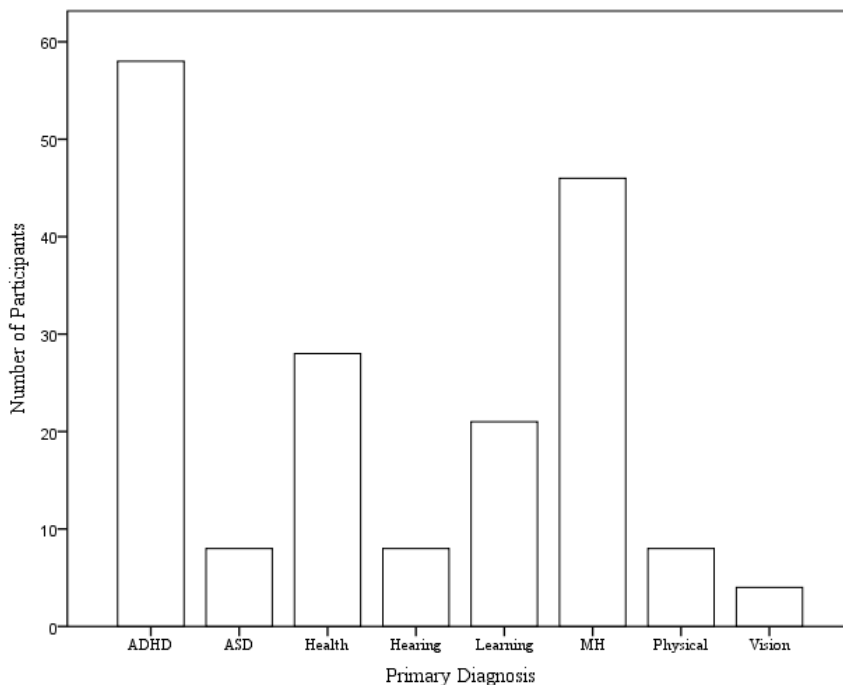


Figure 1. Bar Graph of the Primary Diagnosis Identified for Each Participant

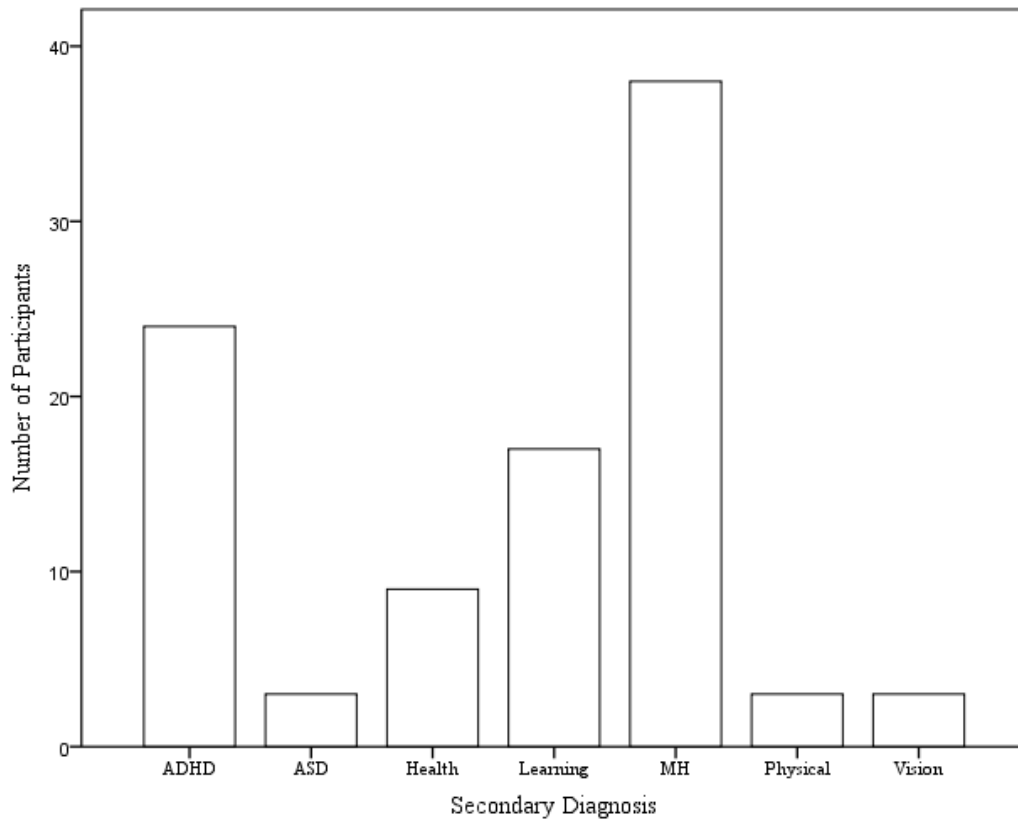


Figure 2. Bar Graph of the Secondary Diagnosis Identified for Each Participant

Measures

Quality of High School Transition Preparation Survey.

The Quality of High School Transition Preparation Survey (QTP) measure was adapted from an 18 item multiple choice survey designed to assess the amount of transition preparation that students have been exposed to in high school (Morningstar et al., 2010). Adaptations consisted of simplifying language and converting response options to a Likert scale while retaining items addressing school and family support for three factors: involvement in the transition process (i.e. Did you attend your IEP meetings every year?), development of self-determination and self-advocacy skills

(i.e. While you were in high school, how did you learn about how to speak up for yourself?), and postsecondary skill development (i.e. How would you rate your school preparation for transition to college?). Each item was administered with a 5-point Likert format, with choices ranging from strongly disagree (1) to strongly agree (5). Initial reliability analysis of the original scale found high reliability with a coefficient alpha of .91. Reliability of the subscales was also high with high internal consistency for each of the subscales: student involvement in transition ($\alpha = .88$), skill development ($\alpha = .67$), and postsecondary skill development ($\alpha = .81$). Adaptations were made in order to ensure that participants would be able to respond appropriately to each item. Following the adaptations to the scale, 28 items were developed in order to clarify and simplify the original scale. In order to ensure that the adaptations remained faithful to the original scale, these 28 items were analyzed with a principle components analysis (PCA) in SPSS. Prior to conducting the PCA, the data was assessed for suitability for factor analysis. The correlation matrix for these items contained many coefficients above .3. The Kaiser-Meyer-Okin value was (.85), exceeding the recommended value of .6 (Kaiser, 1970). Finally, the Bartlett's Test of Sphericity reached significance, further indicating that the correlation matrix could be divided into factors.

Principle components analysis revealed the presence of 6 eigenvalues above 1, explaining a cumulative 73 percent of the variance. An inspection of the screeplot revealed a bend after the fourth component. Using Cattell's (Cattell, 1966) scree test, four components were retained for further investigation. To facilitate interpretation of these four components, Varimax rotation was performed. The rotated solution (shown

in Table 3) revealed four factors with a number of strong loadings, and most variables loading primarily on one component. This solution explained total of 65.2% of the variance, with Component one contributing 40.37%, Component two 11.52%, Component three 8.13%, and Component four 5.16%.

Table 3
Varimax Rotation of Four Factor Solution for QTP Items

Item	Component			
	Involvement in IEP	Family Support of Transition	School Support of Self Advocacy	School Instruction of College Skills
QTP 1	.792			
QTP 2	.853			
QTP 3	.810			
QTP 4	.886			
QTP 5	.805			
QTP 6	.822			
QTP 7	.742			
QTP 8	.735			
QTP 9	.803			
QTP 10	.740			
QTP 11	.697			
QTP 12			.712	
QTP 13			.678	
QTP 14			.687	
QTP 15			.766	
QTP 16		.751		
QTP 17		.488	.455	
QTP 18		.691		
QTP 19				.730
QTP 20				.500
QTP 21		.698		
QTP 22				.796
QTP 23				.593
QTP 24		.764		
QTP 25		.789		
QTP 26				.685
QTP 27		.760		
QTP 28			.434	
% of Variance Explained	40.37	11.52	8.13	5.16

Note: Only loadings above .4 are displayed

The interpretation of these components was distinct from the original three factor model proposed by Morningstar et al. (2010), with the original model combining family and school contributions to transition, but the present model finding significantly different contributions from those two groups. Support of self-advocacy and development of skills for postsecondary education were identified as distinct factors, but contributed less to the variance than family support of transition and student involvement in their IEP planning. In the present study, four factors were utilized from the Quality of Transition preparation measure. The involvement in IEP subscale contains 22 items ($\alpha = .95$); the Family Support of Transition subscale contains 7 items ($\alpha = .89$); the School Support of Self Advocacy Subscale contains 5 items ($\alpha = .83$); and the School Instruction of College Skills subscale contains 5 items ($\alpha = .73$).

College Students with Disabilities Campus Climate Survey.

The College Students with Disabilities Campus Climate Survey (CSDCC) measure is a 39 item inventory using a six point Likert scale that has been normed on a college population (A. Lombardi et al., 2011). This inventory was found to have nine factors: Peer Support (i.e. I make friends easily at this university), Utilizing Accommodations (i.e. I request faculty notification letters from Disability Services), Disability Services (i.e. I feel satisfied with the support I receive from Disability Services), Self-Advocacy (i.e. I feel comfortable advocating for myself and my needs at this university), Family Support (i.e. I rely on family support when I face challenges at this university), Campus Climate (i.e. I feel comfortable on this campus), Faculty Teaching Practices (i.e. Generally I feel instructors are supportive of me at this

university), Faculty Attempts to Minimize Barriers (i.e. My instructors make a statement in class inviting students with disabilities to discuss their needs), and Stigma Associated With Disability (i.e. I feel my instructors doubt my ability to succeed even when accommodations are provided). These nine factors were found to have Cronbach's Alpha reliabilities ranging from .62 to .88 in the initial validation study. The Peer Support subscale contains 4 items ($\alpha = .81$); the Utilizing Accommodations subscale contains 5 items ($\alpha = .63$); the Disability Services subscale contains 3 items ($\alpha = .69$); The Self-Advocacy subscale contains 6 items ($\alpha = .83$); The Family Support subscale contains 4 items ($\alpha = .86$); the Campus Climate subscale contains 4 items ($\alpha = .88$); the Faculty Teaching Practices subscale contains 4 items ($\alpha = .79$); the Faculty Attempts to Minimize Barriers subscale contains 4 items ($\alpha = .78$); and the Stigma Associated with Disability subscale contains 5 items ($\alpha = .75$).

College Learning Effectiveness Inventory.

The College Learning Effectiveness Inventory (CLEI) measure is a 62 item inventory designed to assess use of effective learning strategies that has been normed on a college population (Kim, Newton, Downey, & Benton, 2010). This inventory was found to contain six factors: Academic Self-Efficacy (i.e. I believe it is possible for me to make good grades), Organization and Attention to Study (i.e. I break big assignments into manageable pieces), Stress and Time Press (i.e. I do not seem to have time to get everything done that I need to do), Involvement with College Activity (i.e. I belong to an organized club on campus), Emotional Satisfaction (i.e. I see connections between my classes and my career goals), and Class Communication (i.e.

I ask questions in class). The Academic Self Efficacy scale contains 14 items ($\alpha = .80$); The Organization and Attention to Study subscale contains 8 items ($\alpha = .86$); The Stress and Time Press subscale contains 6 items ($\alpha = .76$); The Involvement in College Activity subscale contains 9 items ($\alpha = .84$); the Emotional Satisfaction subscale contains 7 items ($\alpha = .80$); and the Class Communication scale contains 5 items ($\alpha = .72$).

Student Engagement Instrument.

The Student Engagement Instrument (SEI) measure is an instrument designed to assess the cognitive and affective engagement of students in a number of different areas (Appleton, Christenson, & Furlong, 2008; Grier-Reed et al., 2012). Originally developed for use with high school students, it has also been normed for use with the college population. This is a 35 item instrument that uses a 5-point Likert format, with choices ranging from strongly disagree (1) to strongly agree (5). This instrument yields two overall engagement scores, Cognitive and Affective, along with five factor scores, each loading onto one of the overall engagement scores. These factor scores are: Professor–Student Relationships (Affective Engagement), Control and Relevance of School Work (Cognitive Engagement), Peer Support for Learning (Affective Engagement), Future Aspirations and Goals (Cognitive Engagement), and Family Support for Learning (Affective Engagement). The Professor-Student Relationship subscale consists of 9 items ($\alpha = .90$); the Control and Relevance of Schoolwork subscale consists of 8 items ($\alpha = .75$); the Peer Support for Learning subscale consists of 6 items ($\alpha = .91$); the Future Aspirations and Goals subscale contains 5 items ($\alpha =$

.78); and the Family Support for Learning subscale contains 4 items ($\alpha = .89$). All subscales have strong reliabilities, and the complete scale has an acceptable reliability ($\alpha = .89$).

Procedure

After approval by the university's Institutional Review Board was obtained, participants were recruited in several different ways. During routinely scheduled appointments with students, the disability services personnel gave students a brief overview of the proposed study and invited them to participate. Participation was not required in order to receive typical accommodation services but it rather encouraged as a way to gain insight about the transition from the structure of high school to the relative unstructured environment of college. All students with disabilities were sent an e-mail with study participation information, and cards with study information were placed in the office of student life waiting area as well and in staff offices. Follow up recruitment e-mails were sent out two and four weeks following the initial recruitment e-mail.

Participants were asked to fill out an online survey (administered through SurveyMonkey) comprised of the above four measures. The survey was expected to take approximately 30 minutes to complete. Since this is a study involving students with disabilities, the online survey was compliant with Section 508 requirements for internet accessibility and screen-reader compatible. No identifying information such as name, e-mail address, or IP address was attached to the survey responses and all study information was anonymous. A separate collector was created to gather e-mail addresses of students interested in being entered to win one of the two prizes available

for participation. Aggregate study data may be shared with the disability services office in order to provide better support services for students with disabilities, particularly as they transition from high school to college.

Results

In order to investigate the hypotheses of the present study, several analyses were conducted on the data including descriptive statistics, correlations, MANOVAS, and regressions. Summary and descriptive statistics and frequencies were computed on the independent and dependent variables to in order to gain an understanding of student perceptions of their transition and campus climate, along with their self-reports of engagement and effective learning strategies. Intercorrelations were computed on all of the variables in order to better understand the relationships between the variables, particularly the strength of their relationships and also the direction in which they were related. Table 4 contains the research questions along with the variables analyzed and the analyses that were conducted.

Before any statistical analyses were conducted, the data set was checked for accuracy and missing data points. Although 220 participants accessed the survey, only 190 completed the first question (assent to participate in the research project) and provided demographics information. 170 participants completed all measures and entered their name for the incentive drawing. The final sample for analysis in this study consisted of 190 students, although depending on the measure that number varies. Since surveys were primarily intact, participants were not excluded from analyses due to missing data in order to maximize the number included in each analysis. Only students indicating that they had an IEP or 504 plan in high school were administered the QTP, so the sample for that measure only consisted of 85 participants.

Table 4

Summary of Research Questions and Analyses

Research Question	Variables	Analyses
1. Do the campus climate perceptions, effective learning strategies, or engagement of students with disabilities differ across the years of college?	<u>Independent Variable:</u> Years in College <u>Dependent Variables:</u> CDSCC, CLEI, SEI	MANOVA; Post-Hoc Tukey Test
2. Do campus climate perceptions, effective learning strategies, or engagement differ depending on disability diagnosis?	<u>Independent Variable:</u> Disability Diagnosis <u>Dependent Variables:</u> CDSCC, CLEI, SEI	MANOVA; Post-Hoc Tukey Test
3. Is quality of transition planning related to self-report of campus climate perceptions, student engagement, and effective learning strategies?	<u>Criterion Variables:</u> CDSCC, CLEI, SEI <u>Predictor Variable:</u> QTP	Pearson bivariate correlations
4. Do more positive perceptions of campus climate relate to higher cognitive and affective engagement or increased report of effective learning strategies after controlling for years in college and disability diagnosis?	<u>Criterion Variables:</u> SEI, CLEI <u>Predictor Variable:</u> CSDCC, Years in College, Disability Diagnosis	Hierarchical Multiple Regressions
5. Do campus climate perceptions predict grades after controlling for years in college and disability diagnosis?	<u>Criterion Variable:</u> GPA <u>Predictor Variables:</u> CSDCC, Years in College, Disability Diagnosis	Hierarchical Multiple Regressions

Research Question One

Multivariate Analysis of Variance on Years in College and Campus Climate

In order to investigate the impact that years in college had on the campus climate perceptions of students, a one-way between-groups multivariate analysis of variance was performed. The subscales of the CSDCC scale were used as dependent variables. The independent variable was years in college. Only undergraduate students were used in this analysis. Preliminary assumption testing was conducted to check for normality, outliers, and multicollinearity. No significant violations of these assumptions were noted, and neither the Levene's Test of Equality of Error Variances nor the Box's Test of Equality of Covariance Matrices was significant. However, there was no statistically significant difference between student perceptions of campus climate across years in college: $F(36, 481) = 1.43, ns$; Wilks' Lambda=.68; partial eta squared=.91.

Multivariate Analysis of Variance on Years in College and Effective Learning Strategies

In order to investigate the impact that years in college had on learning strategies used by students, a one-way between-groups multivariate analysis of variance was performed. The subscales of the CLEI scale were used as dependent variables. The independent variable was years in college. Only undergraduate students were used in this analysis. Preliminary assumption testing was conducted to check for normality,

outliers, and multicollinearity. No significant violations of these assumptions were noted, and neither the Levene's Test of Equality of Error Variances nor the Box's Test of Equality of Covariance Matrices was significant. There was a statistically significant difference between the learning strategies of students in different years of college: $F(24, 409) = 1.79, p=.01$; Wilks' Lambda=.70; partial eta squared=.83. An adjusted alpha level of .008 was used in order to avoid a type I error. When the results for the dependent variables were considered separately, none of the differences reached significance using the Bonferroni adjusted alpha level of .008, one variable did approach significance: Campus Climate: $F(4, 122) = 3.50, p = .01$. Post Hoc Tukey tests revealed that students in their third and fourth year of college felt more positively about the campus climate than students in their first year of college.

Multivariate Analysis of Variance on Years in College and Student Engagement

In order to investigate the impact that years in college had on student engagement, a one-way between-groups multivariate analysis of variance was performed. The subscales of the SEI scale were used as dependent variables. The independent variable was years in college. Only undergraduate students were used in this analysis. The independent variable was years in college. Preliminary assumption testing was conducted to check for normality, outliers, and multicollinearity. No significant violations of these assumptions were noted, although some factors on the Levene's Test of Equality of Error Variances and the Box's Test of Equality of Covariance Matrices were significant. Tabachnik and Fidell (2007) recommend adjusting the alpha level if these assumptions are violated. With this adjustment, there

was no statistically significant difference between student engagement across years in college: $F(20, 425) = 1.58, ns$; Wilks' Lambda=.79; partial eta squared=.006.

Research Question Two

Multivariate Analysis of Variance on Campus Climate

In order to investigate the impact that disability diagnosis had on perceptions of campus climate, a one-way between-groups multivariate analysis of variance was performed. The subscales of the CSDCC scale were used as dependent variables. The independent variable was disability diagnosis. In order to increase the ability to interpret the data, students with sensory (hearing, vision) and physical disabilities were collapsed into a Sensory/Physical disability group. Preliminary assumption testing was conducted to check for normality, outliers, and multicollinearity. No significant violations of these assumptions were noted, and neither the Levene's Test of Equality of Error Variances nor the Box's Test of Equality of Covariance Matrices was significant.

There was a statistically significant difference between the campus climate perceptions of students with different disability diagnoses: $F(45, 607) = 6.29, p=.00$; Wilks' Lambda=.51; partial eta squared=.13. A Bonferroni adjusted alpha level of .005 was used in order to avoid a type I error, since there were 9 dependent variables assessed. When the results for the dependent variables were considered separately, five of the differences reached significance using the Bonferroni adjusted alpha level of .005, Peer Support: $F(5, 143) = 3.66, p = .00$, Self-Advocacy: $F(5, 143) = 6.60, p = .00$, Campus Climate: $F(5, 143) = 3.61, p = .00$, Faculty Teaching Practices: $F(5, 143)$

= 3.79, $p = .00$, and Stigma $F(5, 143) = 4.62, p = .00$. Post Hoc Tukey tests revealed that students with mental health or ASD diagnoses perceived significantly less peer support than students with a learning disability diagnosis. Students with a physical or sensory diagnosis reported the best self advocacy skills, with significantly higher scores than nearly all other disability diagnoses, with the exception of ASD. Students with mental health disabilities reported significantly poorer perceptions of campus climate than students with learning disabilities or physical and sensory disabilities. Students with physical and sensory disabilities reported significantly higher satisfaction with faculty teaching practices than students with ADHD, mental health disabilities, and health disabilities. Finally, students with mental health and ADHD diagnoses perceived significantly more stigma associated with their disability than did students with physical and sensory disabilities. These results are depicted in Figure 3.

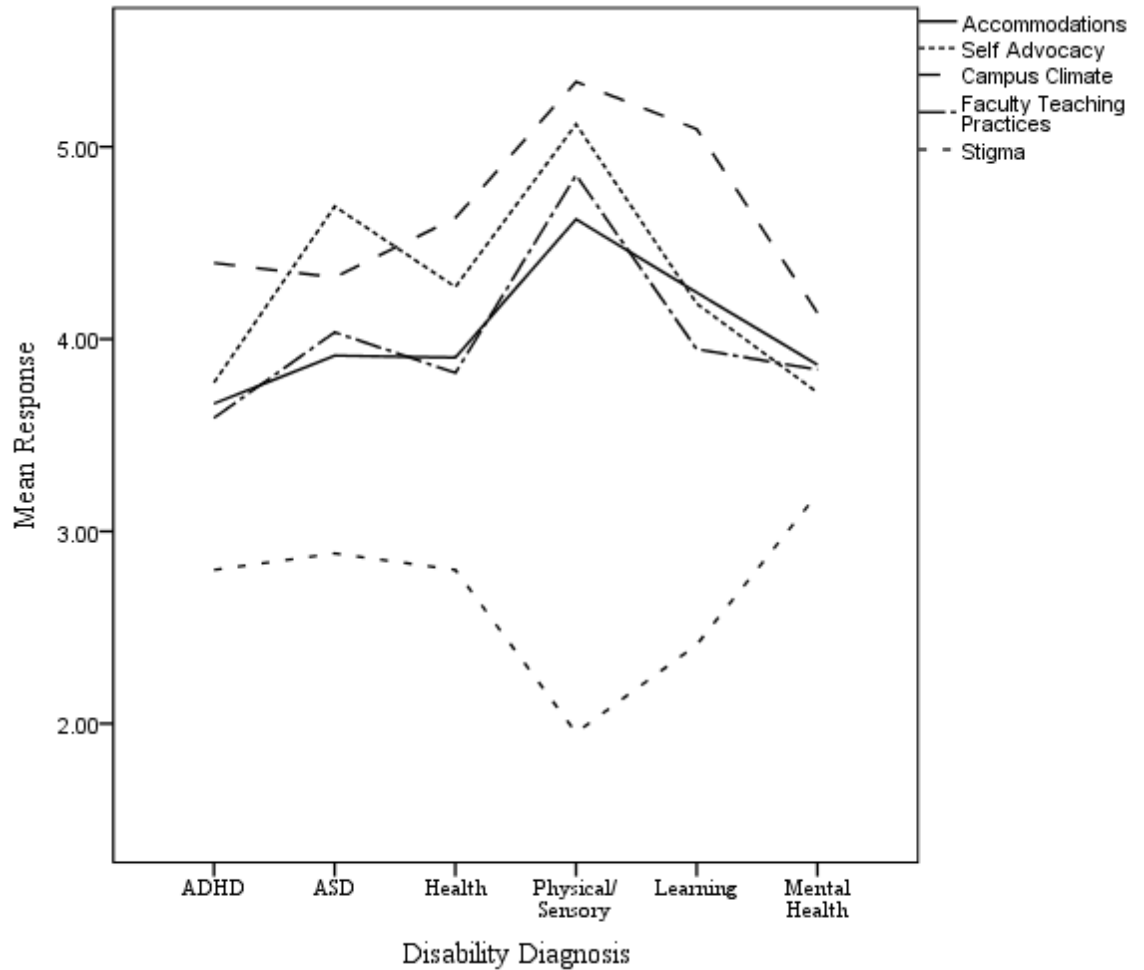


Figure. 3. Responses on Campus Climate Scale organized by Disability Diagnosis

Multivariate Analysis of Variance on Effective Learning Strategies

In order to investigate the impact that disability diagnosis had on perceptions of campus climate, a one-way between-groups multivariate analysis of variance was performed. The subscales of the CLEI scale were used as dependent variables. The independent variable was disability diagnosis. In order to increase the ability to interpret the data, students with sensory (hearing, vision) and physical disabilities were collapsed into a Sensory/Physical disability group. Preliminary assumption testing was conducted to check for normality, outliers, and multicollinearity. No significant

violations of these assumptions were noted, and neither the Levene's Test of Equality of Error Variances nor the Box's Test of Equality of Covariance Matrices was significant.

There was a statistically significant difference between the learning strategies of students with different disability diagnoses: $F(30, 494) = 1.78, p=.01$; Wilks' Lambda=.66; partial eta squared=.01. An adjusted alpha level of .008 was used in order to avoid a type I error. When the results for the dependent variables were considered separately, two of the differences reached significance using the Bonferroni adjusted alpha level of .008, Organization and Attention to Study: $F(5, 128) = 4.19, p = .00$, and Stress and Time Press $F(5, 128) = 3.55, p = .00$. Post Hoc Tukey tests revealed that students who carry an ADHD diagnosis report significantly less Organization and Attention to Study than do students with either a health disability or a physical/sensory disability. Additionally, students with Mental Health disabilities report significantly more Stress and Time Press than do students with Learning Disabilities.

Multivariate Analysis of Variance on Student Engagement

In order to investigate the impact that disability diagnosis had on perceptions of campus climate, a one-way between-groups multivariate analysis of variance was performed. The subscales of the SEI scale were used as dependent variables. The independent variable was disability diagnosis. In order to increase the ability to interpret the data, students with sensory (hearing, vision) and physical disabilities were collapsed into a Sensory/Physical disability group. Preliminary assumption testing was conducted to check for normality, outliers, and multicollinearity. No significant

violations of these assumptions were noted, although some factors on the Levene's Test of Equality of Error Variances and the Box's Test of Equality of Covariance Matrices were significant. Tabachnik and Fidell (2007) recommend adjusting the alpha level if these assumptions are violated. With this adjustment, there was no statistically significant difference between student engagement across disability diagnosis: $F(25, 499) = 1.05, ns$; Wilks' Lambda=.83; partial eta squared=.04.

Research Question Three

Correlations Between Transition Preparation and Campus Climate

Pearson's correlations were computed to clarify the associations between quality of transition preparation and student perceptions of campus climate. Student responses on the QTP measure as well as the SDCC measure were entered into a correlation matrix. Table 5 displays the results from that analysis. The matrix was first examined to identify any potential issues with multicollinearity, evidenced by a correlation of .8 or higher. No such correlations were found and so it can be presumed that there is no significant multicollinearity evidenced in the present variables.

Table 5.

		QTP						CSDCC							
		IEP	FST	SSA	SIS	PS	AC	DS	SA	FS	CC	FT	FB	ST	
QTP	IEP	-	.50*	.58*	.29	.12	.48*	.23	.34*	.27	.25	.35*	.11	-.41*	
	FST		-	.60*	.31*	.34*	.10	.27	.37*	.70*	.30	.30	.10	-.26	
	SSA			-	.42*	.40*	.20	.36*	.32*	.41*	.35*	.40*	.09	-.44*	
	SIS				-	.14	.01	.24	-.01	.22	-.09	.00	-.04	-.02	
	PS					-	.01	.29*	.31*	.30*	.55*	.33*	.25*	-.27*	
	AC						-	.44*	.23*	.10	.15	.28*	.19	-.45*	
CSDCC	DS							-	.32*	.20*	.43*	.37*	.34*	-.42*	
	SA								-	.29*	.49*	.54*	.32*	-.50*	
	FS									-	.33*	.34*	.38*	-.21*	
	CC										-	.49*	.33*	-.55*	
	FT											-	.48*	-.53*	
	FB													-	-.43*
	ST														-

Notes: IEP = Involvement with IEP; FST = Family Support of Transition; SSA = School instruction in Self Advocacy; SIS = School Instruction of College Skills; PS = Peer Support; AC = Accommodation Use; DS = Disability Services; SA = Self Advocacy FS = Family Support; CC = Campus Climate; FT = Faculty Teaching Practices; FB = Faculty Minimizing Barriers; ST = Stigma associated with Disability

* $p < .004$ Bonferroni corrected alpha level of .004

Several significant correlations were found in the present analysis. First, student involvement in their IEP plan was significantly and positively correlated with several campus climate factors, including feelings towards the accommodations process, $r_{(68)} = .48, p = .00$, self-advocacy skills $r_{(70)} = .34, p = .00$, perceptions of faculty teaching practices $r_{(66)} = .35, p = .00$, and less feeling of stigma in relation to their disability $r_{(69)} = -.41, p = .00$. Family support of the transition process was

associated with self-advocacy skills $r_{(73)} = .37, p = .00$, and family support in college $r_{(74)} = .70, p = .00$. School support of self-advocacy skills was associated with more positive feelings towards the Disability Services Office $r_{(78)} = .36, p = .00$, self-advocacy skills $r_{(79)} = .32, p = .00$, family support in college $r_{(80)} = .41, p = .00$; perceptions of campus climate $r_{(79)} = .35, p = .00$, perceptions of faculty teaching practices $r_{(75)} = .40, p = .00$, and less feeling of stigma in relation to their disability $r_{(77)} = -.44, p = .00$.

Correlations Between Transition Preparation and Effective Learning Strategies

Table 6.

<i>Intercorrelations Between Quality of Transition Preparation and Effective Learning</i>											
		QTP					CLEI				
		IEP	FST	SSA	SIS	ASE	CC	OAS	STP	ICA	ES
QTP	IEP	-	.49*	.58*	.29	.25	.25	.20	.21	.21	.11
	FST		-	.60*	.31	.37*	.29	.00	.12	.49*	.20
	SSA			-	.42*	.23	.19	.01	.15	.60*	.22
	SIS				-	-.12	.11	-.05	-.07	.13	-.09
	ASE					-	.32*	.48*	.21	.31*	.65*
	CC						-	.45*	.17	.08	.37*
CLEI	OAS							-	.37*	.17	.43*
	STP								-	.22	.16
	ICA									-	.35*
	ES										-

Notes: IEP = Involvement with IEP; FST = Family Support of Transition; SSA = School instruction in Self Advocacy; SIS = School Instruction of College Skills; ASE = Academic Self-Efficacy; CC = Campus Climate; OAS = Organization and Attention to Study; STP = Stress and Time Press; ICA = Involvement in College Activity; ES = Emotional Satisfaction

* $p < .005$ Bonferroni corrected alpha level of .005

Pearson's correlations were computed to clarify the associations between quality of transition preparation and student reports of effective learning strategies. Student responses on the QTP measure as well as the CLEI measure were entered into a correlation matrix. Table 6 displays the results from that analysis. As in the first correlation analysis, multicollinearity was not revealed to be an issue.

Some significant correlations were found in the present analysis, although not as many as in the initial analysis. First, family support of the transition process was associated with academic self-efficacy $r_{(69)} = .37, p = .00$, and involvement with college activity $r_{(67)} = .49, p = .00$. School support of self advocacy skills was also associated with involvement with college activity $r_{(72)} = .60, p = .00$.

Correlations Between Transition Preparation and Student Engagement

Pearson's correlations were computed to clarify the associations between quality of transition preparation and student reports of cognitive and affective engagement. Student responses on the QTP measure as well as the SEI measure were entered into a correlation matrix. Table 7 displays the results from that analysis. As in the first two correlation analyses, multicollinearity was not revealed to be an issue.

Some significant correlations were found in the present analysis. First, family support of the transition process was associated with professor student relationships, $r_{(64)} = .35, p = .00$, peer support for learning $r_{(68)} = .41, p = .00$, and parent support for learning $r_{(66)} = .51, p = .00$. School support of self-advocacy skills was also associated with professor student relationships, $r_{(70)} = .49, p = .00$, peer support for learning $r_{(74)} = .50, p = .00$, and parent support for learning $r_{(71)} = .35, p = .00$.

Table 7.

Intercorrelations Between Quality of Transition Preparation and Student Engagement

		QTP					SEI			
		IEP	FST	SSA	SIS	PSR	CRSW	PSL	FSL	FG
QTP	IEP	-	.49*	.58*	.29	.25	.14	.14	.30	-.02
	FST		-	.60*	.31	.35*	.22	.41*	.51*	.12
	SSA			-	.42*	.49*	.22	.50*	.35*	.05
	SIS				-	.16	.03	.16	.08	-.03
	PSR					-	.67*	.59*	.29*	.50*
SEI	CRSW						-	.37*	.20	.61*
	PSL							-	.34*	.32*
	FSL								-	.29*
	FG									-

Notes: IEP = Involvement with IEP; FST = Family Support of Transition; SSA = School instruction in Self Advocacy; SIS = School Instruction of College Skills; PSR = Professor Student Relationships; CRSW = Control and Relevance of School Work; PSL = Peer Support for Learning; FSL = Family Support for Learning; FG = Future Aspirations and Goals
 *p < Bonferroni corrected alpha level of .005

Research Question Four

A series of linear regressions were conducted in order to evaluate the relationship between campus climate and two sets of outcome variables. First, linear regressions were conducted to investigate the relationship of campus climate and student engagement. Second, the relationships between campus climate and two scales from the CLEI: academic self-efficacy and emotional satisfaction were investigated.

Tabachnik and Fidell (2007) emphasize the importance of checking assumptions for regressions. A number of assumptions must be met in order to be able to accurately conduct and interpret multiple regressions. The first assumption is that of

adequate sample size. The formula provided by Tabachnik and Fidell (2007) is to have $N > 50 + 8m$ (where m is the number of independent variables). In the case of the present research, 9 independent variables were included in the regressions and so the sample size must exceed 122, which it does. Secondly, it is essential to check for multicollinearity. All of the independent variables were modestly but not highly correlated with one another (See tables 5-7), indicating that this assumption was met. Additionally, the data set was checked for outliers and none were found. Once the multiple regression analyses were conducted, the residual scatterplots were checked for linearity, normality, and homoscedasticity of residuals with no violations of the assumptions found.

Linear Regressions Predicting Student Engagement

Two linear regressions were conducted in order to evaluate the relationship between the campus climate variables and affective and cognitive student engagement. In the first regression, predicting affective engagement, the campus climate ratings were able to account for 69.7% of the variance in affective engagement scores, a value that was significant, $F(9, 137) = 35.09, R^2 = .697, p = .00$. Table 8 shows the values of beta for independent variables included in the present analysis. Peer Support, Family Support, and Campus Climate all made unique and significant contributions to the regression model.

In the second regression, predicting cognitive engagement, the campus climate ratings were able to account for 38.5% of the variance in cognitive engagement scores, a value that was significant, $F(9, 140) = 9.73, R^2 = .385, p = .00$. Table 8 shows the values of beta for independent variables included in the present analysis. Self-

advocacy made a unique and significant contribution to the regression model, and campus climate neared a statistically significant contribution as well.

Table 8.

Linear Regressions Predicting Affective and Cognitive Engagement from Campus Climate (N = 156)

		Affective Engagement			Cognitive Engagement		
		<i>B</i>	SE <i>B</i>	<i>B</i>	<i>B</i>	SE <i>B</i>	<i>B</i>
CSDCC	Peer Support	.115	.025	.272*	-.009	.021	-.038
	Accommodations	-.025	.021	-.067	-.002	.018	-.007
	Disability	.034	.033	.061	-.005	.027	-.016
	Services	.024	.020	.074	.086	.017	.434*
	Family Support	.152	.019	.427*	.007	.016	.033
	Campus Climate	.092	.028	.226*	.045	.024	.186†
	Faculty Teaching	.036	.031	.076	.007	.026	.025
	Practices						
	Faculty						
	Minimizing	-.016	.027	-.035	.032	.023	.115
	Barriers						
	Stigma	-.034	.027	-.086	-.005	.023	-.022
	<i>R</i> ²		.697			.385	

Notes: * $p < .001$; † $p = .062$

Linear Regressions Predicting Self-Efficacy and Emotional Satisfaction

Two linear regressions were conducted in order to evaluate the relationship between the campus climate variables and both self-efficacy and emotional satisfaction. In the first regression, predicting academic self-efficacy, the campus climate ratings were able to account for 40.5% of the variance in academic self-efficacy scores, a value that was significant, $F(9, 146) = 9.04$ $R^2 = .405$, $p = .001$, indicating that the campus climate variables explained a significant portion of the variance in affective engagement. Table 9 shows the values of beta for independent

variables included in the present analysis. Self-advocacy made a unique and significant contribution to the regression model.

In the second regression, the campus climate ratings were able to account for 57.0% of the variance in emotional satisfaction scores, a value that was significant, $F(9,) = 5.29 R^2 = .570, p=.001$, indicating that the campus climate variables explained a significant portion of the variance in affective engagement. Table 9 shows the values of beta for independent variables included in the present analysis. Self-Advocacy, Family Support, and Campus Climate all made unique and significant contributions to the regression model. Faculty Teaching Practices were nearly significant in the ability to contribute to prediction of emotional satisfaction.

Table 9

Linear Regressions Predicting Academic Self Efficacy and Emotional Satisfaction from Campus Climate (N =163)

		Academic Self-Efficacy			Emotional Satisfaction		
		<i>B</i>	<i>SE B</i>	<i>B</i>	<i>B</i>	<i>SE B</i>	<i>B</i>
CSDCC	Peer Support	.000	.007	-.001	-.004	.010	-.026
	Accommodations	.004	.006	.045	-.002	.009	-.013
	Disability	.004	.010	.033	-.006	.013	-.033
	Services	.004	.010	.033	-.006	.013	-.033
	Self Advocacy	.035	.006	.490*	.036	.008	.316*
	Family Support	.009	.006	.115	-.019	.008	-.154*
	Campus Climate	.008	.008	.095	.059	.011	.422*
	Faculty Teaching	-.001	.009	-.005	.024	.012	.144†
	Practices	-.001	.009	-.005	.024	.012	.144†
	Faculty						
	Minimizing	.013	.008	.128	.020	.011	.122
	Barriers						
Stigma	.006	.008	.066	-.008	.011	-.061	
<i>R</i> ²		.405			.570		

Notes: * $p < .01$; † $p = .072$

Research Question Five

In order to answer this research question, a hierarchical multiple regression was conducted with GPA as the outcome variable. Hierarchical multiple regressions are appropriate to use when investigating the predictive ability of a set of variables after controlling for the impact of other variables (Tabachnick & Fidell, 2007). Given the impact that years in college and disability diagnosis had on CLEI and CSDCC factors, these will be controlled for before entering the variables of interest, perceptions of campus climate.

In the first step of the multiple regression, years in college and disability diagnosis were entered in order to account for any impact that these variables had on GPA. In the second step of the multiple regression, CSDCC factors were entered simultaneously to determine which of the variables were most strongly linked to GPA. Tabachnik and Fidell (2007) emphasize the importance of checking assumptions for multiple regressions. A number of assumptions must be met in order to be able to accurately conduct and interpret multiple regressions. The first assumption is that of adequate sample size. The formula provided by Tabachnik and Fidell (2007) is to have $N > 50 + 8m$ (where m is the number of independent variables). In the case of the present research, 11 independent variables were included in the hierarchical regressions and so the sample size must exceed 138, which it does. The second assumption that must be checked is that of multicollinearity. All of the independent variables were modestly but not highly correlated with one another, see Tables 5-7, indicating that this assumption was met. Additionally, the data set was checked for outliers and none were found. Once the multiple regression analyses were conducted,

the residual scatterplots were checked for linearity, normality, and homoscedasticity of residuals with no violations of the assumptions found.

Hierarchical Multiple Regression Predicting GPA

A hierarchical regression was conducted in order to evaluate the relationship between the campus climate scales and GPA, after controlling for the effects of disability diagnosis and years in college. In the step one of the equation, the R^2 change was .05, a value that was significant, $F(2, 157) = 3.95$ $MS_{\text{residual}} = .31$, $p=.02$, indicating that the years in college and disability diagnosis explained a significant proportion of variance of GPA. In step two of the equation, the inclusion of the campus climate variables significantly increased the proportion of explained variance in GPA, $\Delta R^2 = .30$, $F(11, 148) = 7.26$ $MS_{\text{residual}} = .22$, $p=.00$.

Table 10 shows the values of beta for independent variables included at each step. In step one of the equation, disability diagnosis significantly contributed to GPA. In step two of the equation, self advocacy made a unique and significant contribution to the regression model.

Table 10

Summary of Heirarchichal Regression Analysis for Variables Predicting GPA (N =171)

Variable	<i>B</i>	<i>SE B</i>	β
<i>Step 1</i>			
Disability Diagnosis	.049	.022	.175*
Years in College	.052	.029	.141
<i>Step 2</i>			
Disability Diagnosis	.038	.019	.135
Years in College	.013	.026	.036
Peer Support	-.016	.010	-.137
Accommodations	-.002	.009	-.018
Disability Services	-.023	.013	-.152
Self Advocacy	.056	.008	.609**
Family Support	-.008	.008	-.082
Campus Climate	.006	.011	.052
Faculty Teaching	.007	.012	.052
Faculty Minimize Barriers	.013	.011	.098
Stigma	.017	.011	.154

Notes: $R^2 = .05$ for step 1; $\Delta R^2 = .30$ for step 2 ($p = .00$); * $p < .05$; ** $p = .00$

Summary and Results of Hypotheses

Research Question One Hypotheses.

There was no real support for the hypotheses of the first research question. Generally, students did not tend to change in their self-report of campus climate perceptions, effective learning strategies, or engagement across the years of college. The only small notable difference was the Campus Climate subscale of the CLEI, where students in years three and four of college tended to report more positive perceptions of campus climate in general than did students in the first year of college.

Research Question Two Hypotheses.

There was support for several of the research hypotheses stemming from the second research question. First, there were several significant differences in the ways that students with different disability diagnoses perceived the campus climate. Students with mental health and ASD diagnoses report significantly less peer support than students with a learning disability diagnosis. Students with physical or sensory disability diagnoses report significantly more self-advocacy skills than students with nearly any other diagnosis, with the exception of students on the autism spectrum. Students with mental health diagnoses have significantly poorer ratings of campus climate than students with learning, physical, or sensory disabilities. Additionally, students with mental health disabilities, along with students with an ADHD diagnosis perceive much more stigma surrounding their disability than do students with physical or sensory disabilities. Finally, students with physical or sensory disabilities report more positive faculty teaching practices than students with ADHD, health, or mental health disability diagnoses.

There was no support for the research hypothesis regarding differences in the engagement of students depending on disability diagnosis. There was partial support for the prediction that there would be differential reporting of effective learning strategies. Students with an ADHD diagnosis reported significantly less Organization and Attention to Study than did students with physical, sensory, or health disabilities. Students with mental health disabilities reported significantly more Stress and Time Press than did students with learning disabilities.

Research Question Three Hypotheses.

There was support for several of the hypotheses related to research question three. First, student involvement in their IEP plan was significantly and positively correlated with (a) feelings towards the accommodations process, (b) self advocacy skills (c) perceptions of faculty teaching practices and also negatively correlated with feelings of stigma in relation to their disability. Family support of the transition process was significantly and positively associated with self advocacy skills and family support in college. School support of self advocacy skills was significantly and positively associated with (a) positive feelings towards the Disability Services Office, (b) self advocacy skills, (c) family support in college, (d) perceptions of campus climate, (e) perceptions of faculty teaching practices, and also negatively associated with feelings of stigma in relation to their disability.

In terms of the relationship between transition planning and effective learning strategies, family support of the transition process was associated with academic self-efficacy and involvement with college activity. School support of self advocacy skills was also associated with involvement with college activity. There were also associations between transition planning and student engagement. Family support of the transition process was associated with (a) professor student relationships, (b) peer support for learning, and (c) and parent support for learning. School support of self advocacy skills was also associated with (a) professor student relationships, (b) peer support for learning, and (c) parent support for learning.

Research Question Four Hypotheses.

There was mixed support for the hypotheses associated with research question four. Self advocacy skills were a significant and unique predictor in the regression predicting cognitive engagement as well as the regression predicting academic self-efficacy. Affective engagement was significantly predicted by peer support, family support, and also perceptions of the campus climate. Emotional satisfaction was significantly predicted by self advocacy, family support, and campus climate. Faculty Teaching Practices were almost a significant predictor of emotional satisfaction.

Research Question Five Hypotheses.

There was partial support for the hypothesis that campus climate perceptions would predict GPA. Disability diagnosis had a significant impact on GPA, and after that had been accounted for, campus climate perceptions were still significant predictors of GPA. This significant contribution was made exclusively by the self-advocacy subscale of the CSDCC.

Discussion

Summary of Findings

The present study had a number of findings that add to the literature base on both the transition planning of high school students with disabilities as well as the college experience of students with disabilities. Although there were mixed results for some of the hypotheses, others offered significantly more support and information that can be applied to both high school and college preparation and support of students with disabilities.

No real developmental differences were noted between students in college on any of the outcome variables, with the exception of a small difference between the perceptions of first year students and the perceptions of third and fourth year students on the general campus climate. This finding mirrors the finding in the study investigating the development of self-regulatory abilities where no differences of self-regulation ability were found between the students in different years of college (Park et al., 2012).

As predicted, there were significant differences between students with different disability diagnoses on many of the outcome variables. Overall, students with physical and sensory disabilities appeared to be the best adjusted, reporting the highest levels of self-advocacy, the best perceptions of faculty teaching practices and campus climate, the least amount of stigma, and better organizational skills than students with an ADHD diagnosis. This is linked to the finding that students with visible disabilities fared better through the transition to college than students with hidden disabilities (Adams & Proctor, 2010). It is likely that these findings are closely related to the

feelings of stigma reported by students with hidden disabilities, and especially students with mental health disabilities (Collins & Mowbray, 2005).

Some of the more concerning results were the campus climate perceptions of students with mental health disabilities. These students reported significantly lower levels of peer support than students with learning disabilities, and significantly worse perceptions general campus climate than students with learning, physical, or sensory disabilities. Furthermore, they felt the highest amount of stigma related to their disability and significantly more stress than students with learning disabilities. Students with an ASD diagnosis also perceived significantly less peer support than students with learning disabilities, but did perceive themselves to have strong self-advocacy skills. Although this is in line with the literature on these two populations (Belch, 2011; Nevill & White, 2011), it still has important implications for the needs of these two groups of students in terms of supports available at both the high school and the college level.

Some elements of transition planning were found to have significant and positive impact on the college experience of students with disabilities, which fell in line with the hypotheses regarding transition planning. Students who were more involved with planning their IEP had better self-advocacy skills and feelings towards the accommodations process and reported their faculty to use more inclusive teaching practices. Additionally, these students felt less stigma surrounding their disability diagnosis. These findings expand on those reported by Morningstar et al. (2010) regarding the impact that IEP involvement can have on the hope and empowerment of new college students.

Students whose families supported them through the transition process were more likely to be better self-advocates and report more family support in college. These students also tended to report higher levels of academic self-efficacy and involvement with college activities. Finally, these students were more likely to report higher levels of affective engagement, including better relationships with their professors, their peers, and their families. These findings highlight the importance of parental support through the transition process, particularly as students are looking into colleges and the application process. This is in line with the research finding that supportive parenting is linked to college student development of autonomy (Cullaty, 2011).

As predicted, students whose high school encouraged them to develop self-advocacy skills were more likely to demonstrate those skills in college, feel positively towards the disability services office, feel more positively about the campus climate and report their faculty to use more inclusive teaching practices. These students were also less likely to feel stigma surrounding their disability diagnosis. Additionally, students whose high schools encouraged self-advocacy experienced more affective engagement in college, including better relationships with their professors, peers, and parents. Given the strong influence that self-advocacy skills had on the engagement and grades of students in the present study, the importance of self-advocacy skills for college students with disabilities is clearly delineated. The importance of self-advocacy in transition planning was also discussed by Barnard-Brak et al. (2013) and Connor (2012).

Further evidence of the importance of self-advocacy skills lies in the significant relationship that they had with both cognitive engagement as well as academic self-efficacy. Both of these factors have been found to be significantly associated with academic performance, indicating further that self-advocacy is an essential skill for college success and one that should be developed through the high school transition plan as well as through the disability services office at the college level.

In terms of the more social-emotional findings, affective engagement was significantly predicted by peer support, family support, and also perceptions of the campus climate. This finding is not surprising, since these measures all assess the students' perceptions that they are connected to and supported by others around them. Emotional satisfaction was significantly predicted by self-advocacy, family support, and campus climate, this finding indicates that students who are able to speak up for themselves feel more positively about their ability to feel comfortable and connected to their school. Also of note was the fact that Faculty Teaching Practices were almost a significant predictor of emotional satisfaction, which speaks strongly to the impact that faculty can have on the emotional wellbeing of students.

As predicted, Campus Climate was a significant predictor of self-reported GPA after accounting for the impact of years in college and disability diagnosis. This prediction was due exclusively to the strong impact that self-advocacy has on grades. Students who were better able to speak up and articulate their needs to their professors were more successful in their courses. This is even further evidence of the importance of self-advocacy both in high school as well as at the college level.

Strengths & Limitations

The present study included student perceptions of campus climate, student engagement, and effective learning strategies. Additionally, the study investigated the relationship between high school transition planning and college outcomes related to differences in transition planning experience. Finally, this study also investigated the differences between these perceptions depending on disability diagnosis.

Several limitations of the present study should be noted in order to fully understand its utility and generalizability, two key concepts relating to external validity (Jolley & Mitchell, 2007). External validity refers specifically to the ability to transfer or generalize research to another population. Because of this, perhaps the largest limitation in the present study is the lack of ethnic and gender diversity among the study participants. This limitation is a threat to the external validity of the study, and makes it difficult to gain a true understanding of the differences that students of different ethnicities may have in their differences in either their transition planning or their engagement, use of effective learning strategies, or perceptions of campus climate at the college level. Furthermore, data was only collected from one college, which also limits the external validity.

The voluntary self-report nature of the study may have an impact on internal validity, specifically construct validity (Jolley & Mitchell, 2007). Construct validity refers to the ability of a test to measure what it purports to measure. This can be problematic with self-report instruments. Particularly since participants were asked to

self-report their grade point average, the likelihood may be that they over-reported that number, despite the anonymous nature of the research study.

Finally, the quasi-experimental nature of the present research makes describing causal effects impossible, an additional threat to the internal validity of this study. Since the findings of the present study are correlational, it is not possible to determine the directionality of the results. One of the difficulties with correlational research is that it is impossible to determine which variable existed first. For instance, was the student more affectively engaged first, making them more likely to experience a positive campus climate or did perceiving a positive campus climate increase the affective engagement of the student? Furthermore, there are likely variables that influence both the student's perceptions of campus climate as well as their affective engagement. Perhaps students who are more social are more likely to be affectively engaged and also more likely to perceive a positive campus climate. Additionally, the relationships investigated may be cyclical and influence one another.

Implications for Practice

High school transition.

The results from this study clearly highlight the importance of high school transition planning. There were significant correlations between student involvement in IEP planning and a number of crucial elements of college success. Furthermore, there was a significant correlation between school support of self-advocacy skill development and positive transition experiences at the college level. High schools should develop additional ways for students to contribute to their IEP planning, and further explore ways to help students better understand their strengths and weaknesses,

along with their disability. These are additional ways to help increase their ability to advocate for themselves and clearly communicate the things that they need for success. At a broader level, there need to be clear and unambiguous requirements at the state or district level for transition planning that help schools better understand how to support students as they begin to prepare for college. Since the literature found many variations of transition planning, and indicated that it was more often focused on assisting students obtain employment, it is essential for high schools to fully understand the importance of setting the groundwork for student success in college.

High schools need to help students with disabilities understand the ways in which their accommodations may change once they are in college, and the way that the laws protecting them will change as well. It is essential for students at the college level to seek out services; high school students need to understand the benefits of self-disclosure and the ways in which the stigma of having a disability may be reduced in college due to the different structure in which disability services operates. Finally, it is essential for high schools to partner with students and parents to help students learn to advocate for themselves so that they can start college with the best chance at success possible.

Disability services.

Disability services staff need to be aware of the great variation in transition programming that incoming freshmen may have had exposure to. It is important to have a plan to work with students who may be lacking in self-advocacy or other essential college skills to help them catch up and succeed in college level coursework. Collaboration between disability services and the tutoring center on campus may be

one way to help students fill in academic gaps as they arise. Additionally, the tutoring center may be an optimal place for students to gain some of the organizational and study skills that they may be lacking as they start college.

One group that arose from the data in this study were students with mental health disabilities. It is imperative that supports are in place for these students and that they know where they can go to access support. This may be an extremely difficult task due to a reluctance to self-disclose, but having liaisons with other campus offices may be one way for students with mental health disabilities to learn more about disability services and what they have to offer, even if students prefer not to disclose anything to their professors or other on-campus staff. Working with these and other students to reduce the stigma surrounding all disabilities, but especially mental health disabilities may be another way to help students with disabilities to feel more comfortable on campus. Additionally, working with peer mentors or other forms of peer supports may be an important way to help increase the perceptions of support by students with mental health disabilities.

Another group that could certainly benefit from peer mentorship is students with ASD. These students need role models who can help them learn to socialize on campus and make crucial connections. Additionally, these students need individuals to turn to in order to help them navigate other social interactions on campus, such as with their professors or academic advising staff.

As Corey (2011) noted, disability services staff do not just interact with students with disabilities, they are also responsible for consulting with faculty and staff and working to spread the understanding of disability as part of campus diversity.

In these ways, the office of disability services can work to help others on campus better understand the needs of students with disabilities, particularly those with higher levels of need that may fall through the cracks otherwise. It is a campus-wide responsibility to look out for students and help them to have the most positive and successful college experience possible.

Faculty and institutional.

Faculty play an important role in student support. Oftentimes, they see students more often than nearly any other staff member on campus. They are in a prime position to notice if a student is struggling academically, emotionally, or socially. If they approach students in a respectful and concerned manner, the research suggests that students will respond to that and hopefully reach out to relevant support services. The attitudes of faculty towards all students, including those with disabilities has a significant impact on the emotional health of students as well as their motivation to learn.

Professional development for faculty around topics such as universal design for instruction and ways to engage students should be provided. Additionally, faculty training on disability law and students with disabilities should be required, so that they understand the laws that protect students as well as the students that they will be accommodating. With the recent increase in campus violence, it is important for faculty to be well informed, but not alarmist, about students with significant mental health issues so that they are able to keep themselves and the students in their classes safe.

An institutional-wide commitment to students with disabilities is necessary in order to fully support and understand them as contributors to the campus community. In an ideal world, all students, faculty, and staff would have accurate information about individuals with disabilities and ways to combat the stigma that many of them experience on a day to day basis. At the very least, institutions should make trainings on these issues freely available to those that request them in order to help make the campus a more inviting and tolerant place for students to live and study.

Future Research

Future research should focus specifying the aspects of transition programming that are most helpful for students as they enter college. Obviously, self-advocacy skills play an important role in this but what specifically about them makes students so much readier to adapt to the demands of the college environment. Ways to get the buy in of high schools must also be explored so that they have a full understanding of the way that they are helping their students move on with their educations. Furthermore, research on the collaboration between high school special education departments and college disability services offices could help identify a unified way to offer supports and services to students both before and after enrolling in college.

At the college level, a further understanding of the feelings of stigma felt by students with disabilities is essential. In order for schools to work on eradicating stigma associated with disability, it is essential to first understand where it comes from and how it is maintained. It is also important to understand potential differences in the stigma perceived by students with various disability diagnoses, particularly since

students with mental health disabilities seem to have a much stronger perception of stigma, it would be helpful to understand the origin of the stigma.

Also essential to gaining a fuller understanding of how to support students with disabilities is research into the ways in which faculty can be encouraged to attend trainings and enhance their understanding of diverse populations, including individuals with disabilities. Institutional support of these concepts has been shown to trickle down to faculty members, so perhaps research on this process would help clarify the best way to implement this at both the institutional as well as the faculty level.

APPENDICES

Appendix A

Participant Recruitment Information

E-mail to be sent to all students actively registered with Disability Services for Students:

Subject Line: Participants needed for study on students with disabilities at the University of Rhode Island

My name is Paige Ramsdell and I work in the office of Disability Services for Students at the University of Rhode Island. I am also completing a degree of my own at URI and am conducting my doctoral dissertation research this year. I am looking for participants for my research study on students with disabilities here at URI. You are receiving this email because you are a registered with the Office of Disability Services for Students at URI. Your email address was obtained from our database of students registered with our office.

This study is about your experiences as a student with a disability on this campus, along with your learning strategies and engagement on campus. If you had an IEP or 504 plan in high school, I will also ask you to answer questions about how that prepared you for college. My goal is to gain a better understanding of how students experience their interactions with faculty, the DSS office, and other students on campus and also to see how these experiences might influence other aspects of your life as a college student. If you choose take part in this study, you would click on the link below and answer questions about the topics that were listed, it should take about 30 minutes to answer all of the questions.

To be able to take part in this study, you must be 18 years of age and registered with the office of Disability Services for Students. Participants in this study will be entered to win one of two \$50 Amazon gift cards.

To access the survey, please click the following link:

If you have any questions about the study, please email me at pramsdell@uri.edu or call me at 401-874-2098. You may also call my Major Professor, Paul deMesquita at 401-874-2875 or e-mail him at paulbdem@uri.edu.

Thank you for taking the time to read this e-mail, I hope that you will consider participating in my study.

Best,
Paige

Follow-up e-mail to be sent to all students actively registered with Disability Services for Students 2 and 4 weeks after initial recruitment e-mail:

Subject Line: Participants still needed for study on students with disabilities at the University of Rhode Island

I am still looking for students to participate in a research project on students with disabilities here at URI. If you have already participated, thank you very much for your time, please disregard this e-mail. If not, please take a moment to read through the following information and decide if it is something you would like to participate in.

My name is Paige Ramsdell and I work in the office of Disability Services for Students at the University of Rhode Island. I am also completing a degree of my own at URI and am conducting my doctoral dissertation research this year. I am looking for participants for my research study on students with disabilities here at URI. You are receiving this email because you are a registered with the Office of Disability Services for Students at URI. Your email address was obtained from our database of students registered with our office.

This study is about your experiences as a student with a disability on this campus, along with your learning strategies and engagement on campus. If you had an IEP or 504 plan in high school, I will also ask you to answer questions about how that prepared you for college. My goal is to gain a better understanding of how students experience their interactions with faculty, the DSS office, and other students on campus and also to see how these experiences might influence other aspects of your life as a college student. If you choose take part in this study, you would click on the link below and answer questions about the topics that were listed, it should take about 30 minutes to answer all of the questions.

To be able to take part in this study, you must be 18 years of age and registered with the office of Disability Services for Students. Participants in this study will be entered to win one of two \$50 Amazon gift cards.

To access the survey, please click the following link:

If you have any questions about the study, please email me at pramsdell@uri.edu or call me at 401-874-2098. You may also call my Major Professor, Paul deMesquita at 401-874-2875 or e-mail him at paulbdem@uri.edu.

Thank you for taking the time to read this e-mail, I hope that you will consider participating in my study.

Best,
Paige

Informational cards to be placed within the Office of Student Life and in Disability Services for Students counselor offices, and posted on DSS Facebook page:

We want to hear from you!

Students registered with Disability Services for Students sought for a research study about their experiences on campus.

For more information, please contact Paige Ramsdell at pramsdell@uri.edu.

Appendix B

Informed Consent Form

The University of Rhode Island
Department of Psychology
Chafee Hall, 10 Chafee, Road Kingston, RI 02881
The College Experience of Students With Disabilities: How do Quality of Transition,
Perception of Campus Climate, Engagement, and Learning Strategies Relate?

Dear Participant,

You have been invited to take part in the research project described below. If you have any questions, please feel free to call Paige Ramsdell at 401-874-2098 or Paul Bueno de Mesquita at 401-874-2875, the people mainly responsible for this study. The purpose of this study is to better understand the college experiences of students with disabilities. Responses to survey items will be compiled with those of other participants. Identifying information such as your name, e-mail address, or IP address will not be collected. Data will be stored in a password protected electronic format. **YOU MUST BE AT LEAST 18 YEARS OLD** to be in this research project.

If you decide to take part in this study, your participation will involve filling out a 30 minute online survey pertaining to your opinions about this campus and your study habits. Some participants who identify as having had an IEP or a 504 in high school will answer questions about their transition programming in high school.

The possible risks or discomforts of the study are minimal. It is possible that you may feel a little bit uncomfortable disclosing your disability diagnosis, or speaking about the accommodations or services that you receive now or while you were in high school.

Although there are no direct benefits of the study, your answers will help increase the knowledge regarding your experiences on campus and also the transition from high school to college. Additionally, all participants who choose will be entered into a drawing for one of two \$50 Amazon gift cards.

Your part in this study is anonymous. That means that your answers to all questions are private. No one else can know if you participated in this study and no one else can find out what your answers were. Scientific reports will be based on group data and will not identify you or any individual as being in this project.

The decision to participate in this research project is up to you. You do not have to participate and you can refuse to answer any question.

Participation in this study is not expected to be harmful or injurious to you. However, if this study causes you any injury, you should call Paige Ramsdell or Paul Bueno de Mesquita at the University of Rhode Island at 401-874-2098.

If you have other concerns about this study or if you have questions about your rights as a research participant, you may contact the University of Rhode Island's Vice

President for Research, 70 Lower College Road, Suite 2, URI, Kingston, RI, (401) 874-4328.

ELECTRONIC CONSENT:

Clicking on the “agree” button indicates that: You are at least 18 years old. You have read the consent form and your questions have been answered to your satisfaction.

If you do not wish to participate in the research study, please decline participation by clicking on the “disagree” button.

Thank you,
Paige Ramsdell

Appendix C

Demographic Measure

Please note that all questions are optional. If you choose not to answer a question for any reason, please skip that question and move on to the next.

1. What is your gender?
 - Female
 - Male
 - Other (please specify): _____

2. Age?

3. Would you describe yourself as:
 - American Indian / Native American
 - Asian
 - Black / African American
 - Hispanic / Latino
 - White / Caucasian
 - Pacific Islander
 - Other

4. What is your primary language?

5. How many years have you attended college?
 - 1
 - 2
 - 3
 - 4
 - 5+

6. What is your cumulative GPA?

7. What is your major?

8. Have you ever been on Academic Probation?
Yes No

9. If Yes, How many times?

10. Have you ever been on the Dean's List?

Yes No

11. If Yes, How many times?

12. How many hours a week do you work/volunteer outside of school?

13. Which of the following best describes your current place of residence?

- Residence Hall
- Apartment, house, condo (not with parents)
- Fraternity/sorority house
- Live with parents
- Other (please specify) _____

14. Do you currently have a diagnosed disability?

Yes/No

15. If yes, what do you consider to be your primary disability diagnosis?

- ADHD
- Autism Spectrum/Aspergers
- Chronic Health Condition (please specify): _____
- Hearing
- Learning (please specify): _____
- Mental Health (please specify): _____
- Physical/Mobility Related
- Vision

16. Do you currently have any additional diagnoses?

Yes/No

17. If yes, what do you consider to be your additional disability diagnoses?

- ADHD
- Autism Spectrum/Aspergers
- Chronic Health Condition (please specify): _____
- Hearing
- Learning (please specify): _____
- Mental Health (please specify): _____
- Physical/Mobility Related
- Vision

18. Did you have an IEP or 504 plan while you were in High School?
Yes No

Appendix D

Quality of High School Transition Preparation Responses in Frequencies

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. When I was in high school, I attended my IEP meetings every year.	16	10	9	13	35
2. I was actively involved in my IEP meetings every year.	13	10	17	12	30
3. My involvement in my IEP meeting was supported by the school and my family.	9	5	10	18	40
4. My input was listened to by the IEP team.	11	4	21	16	31
5. My IEP goals accurately reflected what my interests and preferences were at the time.	9	10	15	14	34
6. These goals were developed with input from me and my family	6	9	12	22	33
7. A plan for achieving my post-school goals was included in my IEP meetings.	13	11	16	19	23
8. I was involved in this planning for my future.	11	8	15	17	30
9. Test scores and other related data were explained to me and my family.	14	10	13	22	22

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10. I was asked for input to determine which courses I should take and what support I needed in my classes.	12	17	14	15	22
11. My IEP meetings prepared me for postsecondary education	20	17	13	16	16
12. I had classes during high school that helped me learn to advocate for myself and make decisions about my future.	13	16	22	23	13
13. Teachers encouraged and instructed me on how to speak up for myself both in high school and outside of school	8	10	24	27	18
14. Teachers scheduled time with me, in addition to IEP meetings, to discuss my plans for my future.	19	21	20	15	11
15. Teachers worked with me to help me determine the best way to advocate for myself.	17	21	16	17	14
16. My family worked with me to help me determine the best way to advocate for myself.	6	4	15	22	37
17. I had opportunities in school to advocate for myself.	4	13	21	23	23

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
18. I had opportunities at home to advocate for myself	7	5	18	15	39
19. I had class lessons that included topics such as study and organizational skills.	17	20	16	18	13
20. I had class lessons that included information about advocating for disability services in college and how to disclose my disability	45	20	12	6	2
21. My family and I participated in activities to help prepare me for college such as visiting college campuses and helping me complete college applications.	10	6	13	17	38
22. I learned job or career skills through classes in high school.	23	23	16	15	8
23. I had actual job experiences organized by my high school.	54	15	7	3	6
24. My family often discussed and taught me job skills and good work habits.	6	10	7	28	33
25. My family actively helped me find a job or supported me in finding a job.	10	6	15	15	39

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
26. I learned many things during class in high school that have helped me live on my own.	27	22	18	9	8
27. I learned many things at home that have helped me live on my own. my parents talked about how to be successful when I was on my own	10	4	11	24	35
28. My school provided helpful preparation for my transition to college.	15	26	17	16	11

Appendix E

College Students with Disabilities Campus Climate Survey Responses in Frequencies

	Never					Always
	True					True
1. I have trouble making friends at this university	51	34	33	34	25	7
2. I make friends easily at this university	10	26	40	30	42	36
3. I have difficulty meeting new people at this university because of my disability	84	39	23	24	8	7
4. I have strong and rewarding friendships with other students at this university	8	24	22	32	52	47
5. I don't utilize accommodations unless absolutely necessary	15	12	17	29	38	73
6. I don't utilize my accommodations unless I am not doing well in a class	51	30	29	28	25	20
7. I request faculty notification letters from Disability Services	35	20	17	22	25	63
8. I utilize Disability Services to assist me in arranging my accommodations as needed	13	14	21	26	37	74
9. I find that I do not utilize my accommodations because it is not convenient to arrange them	69	48	22	13	20	12
10. Disability Services effectively responds to specific incidents of insensitivity	5	14	33	50	31	46
11. I feel comfortable discussing challenges related to my disability with people who work in Disability Services	5	16	9	22	42	90
12. I utilize advising/counseling support provided by the Disability Services office as needed	32	20	25	31	26	49
13. I perform as well as other students in my courses	1	20	30	35	52	47
14. Generally, I feel good about myself and by abilities at this university	5	18	22	50	50	40

	Never				Always	
	True				True	
15. I keep up with the reading in most of my courses	6	22	34	36	51	36
16. My disability is not an issue for me and my performance at this university	22	55	46	23	23	16
17. I feel comfortable advocating for myself and my needs at this university	5	16	32	51	35	46
18. I know about my rights and responsibilities as a student with a disability	5	23	20	36	45	55
19. My family members have helped me in college by providing me with emotional support	9	14	19	32	33	78
20. I rely on family support when I face challenges at this university	17	20	23	35	30	59
21. My family members have helped me seek out or find support services in college	28	25	19	29	28	53
22. My family members have helped me in college by providing me with financial support.	17	10	13	22	31	91
23. I wish I attended a different university	69	36	24	21	20	13
24. I do not feel comfortable on this campus	80	50	18	17	15	5
25. I feel comfortable on this campus	4	15	25	19	58	61
26. I feel the overall campus environment is supportive of students with disabilities	4	18	23	37	66	35
27. My instructors use an inclusive curriculum design so that my accommodation needs are minimized	10	39	30	47	35	17
28. My instructors provide more than the minimum modifications needed to accommodate my disability	14	31	41	41	32	20
29. Generally I feel instructors are supportive of me at this university	2	9	21	59	50	43

	Never				Always	
	True				True	
30. The overall teaching style of my instructors at this university permits all students to learn the course material regardless of their individual needs	8	29	33	47	48	19
31. My instructors include a statement in their syllabus inviting students with disabilities to discuss their needs with them	5	7	11	14	43	104
32. My instructors make a statement in class inviting students with disabilities to discuss their needs	14	22	20	22	40	67
33. My instructors have general knowledge about accommodations	0	14	23	50	48	47
34. My instructors provide grading rubrics in order to clarify the expectations of major assignments prior to deadlines	2	14	22	43	53	49
35. If I do not disclose my disability early in the term, my instructors are reluctant to provide accommodations	25	40	34	42	21	17
36. I feel my instructors are not willing to provide requested accommodations	53	66	32	20	8	4
37. I am reluctant to disclose my disability to my instructors	41	36	25	27	30	25
38. My instructors are willing to provide the accommodations outlined in my notification letter	2	6	21	45	55	51
39. I feel my instructors doubt my ability to succeed even when accommodations are provided.	69	42	30	19	14	10

Appendix F

College Learning Effectiveness Inventory Responses in Frequencies

	Never				Always
1. I wait to study until the night before the exam. (reversed)	50	42	50	25	4
2. I organize my time so that I have plenty of time to study.	1	28	53	62	27
3. I do not seem to have time to get everything done that I need to do. (reversed)	14	36	42	52	27
4. I am aware of the assignments that are due in the next week.	0	2	18	69	82
5. I do not turn in assignments. (reversed)	119	33	14	3	1
6. I organize class information in a way that helps me retain and apply it later.	0	14	46	70	41
7. I plan in advance to prevent becoming overwhelmed with assignments at the last minute.	3	22	47	59	39
8. I avoid speaking in class. (reversed)	38	43	40	24	26
9. I participate in social activities on campus.	48	34	33	28	28
10. I belong to a study group.	79	49	21	13	9
11. I belong to an organized club on campus.	59	28	11	23	48
12. I am discouraged with how I am treated by my instructors. (reversed)	85	46	23	14	2
13. I have symptoms of stress from all of the pressure I have been under since coming to college. (reversed)	9	18	37	54	51
14. I like my courses.	0	12	37	98	23
15. I consider college to be a great time in my life.	11	29	42	45	41

	Never				Always
16. I become overwhelmed when I think of my assigned class requirements. (reversed)	3	21	39	68	38
17. I enjoy being a student here.	5	19	42	60	42
18. I hate school, but I know I have to do it. (reversed)	46	56	33	14	21
19. I can talk with people who provide encouragement to me about what I am learning.	5	15	41	65	43
20. People in my community value a college education.	1	10	13	49	97
21. My family cares how I do academically.	4	6	8	29	124
22. I find it difficult to get the assistance I need for my academic success. (reversed)	41	64	40	17	9
23. I believe that I have the ability to complete college.	1	4	10	43	113
24. I believe it is possible for me to make good grades.	1	3	15	55	97
25. I find my attention wandering in class (reversed)	8	28	42	55	35
26. I have goals that I want to achieve by being in college.	0	5	8	36	121
27. I see connections between my classes and my career goals.	2	13	25	55	76
28. I turn in assignments only partially completed. (reversed)	108	43	14	4	2
29. I know someone with whom I can study.	23	26	27	53	42
30. I make study goals and keep up with them.	8	27	61	51	24
31. I break big assignments into manageable pieces.	3	29	55	55	28
32. It seems as though I am playing catch-up. (reversed)	16	38	50	47	19

	Never				Always
33. I ask questions in class.	19	35	44	42	30
34. I attend events such as concerts, plays, speakers, or athletic contests as a part of the college experience.	42	32	32	47	16
35. I avoid classes in which participation is required. (reversed)	85	42	21	16	6
36. I feel there are so many things to get done each week that I am stressed. (reversed)	3	18	34	70	44
37. My living situation distracts me from my studies. (reversed)	34	55	43	24	14
38. Family members criticize me because I am not a great student. (reversed)	109	32	13	7	8
39. My instructors show interest in me.	6	24	53	61	26
40. I have friends here at school.	6	27	22	48	67
41. My friends have good study habits.	6	16	51	65	29
42. I doubt that I can make the effort to finish college. (reversed)	118	36	11	3	1
43. I have high academic expectations of myself.	0	8	18	37	107
44. I dread the thought of getting test results in certain classes. (reversed)	17	24	36	54	39
45. I can make connections between what I learn in class and my plans for a career.	0	18	30	61	60
46. I cannot seem to express my ideas on paper very well. (reversed)	43	50	36	27	14
47. Gaining knowledge is important to me.	0	2	3	45	120
48. I find myself daydreaming when I study. (reversed)	5	28	50	50	36
49. I question why I need a degree for the career I want to pursue.	109	27	13	14	7

	Never			Always		
50. I am determined to do what it will take in order to succeed with my goals.	0	3	13	52	102	
51. I cannot get into studying even if there is nothing else to do. (reversed)	25	51	39	37	16	

Appendix G

Student Engagement Responses in Frequencies

	Strongly Disagree				Strongly Agree
1. Overall, faculty and staff at my university treat students fairly.	3	13	41	58	52
2. The tests in my classes do a good job of measuring what I'm able to do.	17	30	44	50	26
3. Students at my university are there for me when I need them.	12	31	43	50	31
4. Adults at my college listen to the students.	4	20	44	64	35
5. Most of what is important to know you learn in college.	19	37	40	46	24
6. At my university, professors care about students.	5	12	46	65	39
7. My family/guardian(s) are there for me when I need them.	5	11	16	28	105
8. I'll learn, but only if the professor gives me a reward.	102	51	7	5	2
9. I feel like I have a say about what happens to me at college.	5	17	53	56	36
10. Going to school after high school is important.	5	5	10	35	111
11. My professors are there for me when I need them.	3	17	43	64	36
12. When something good happens at college, my family/guardian(s) want to know about it.	6	8	16	34	102
13. I have some friends at college.	6	16	24	49	71
14. The university rules are fair.	2	13	38	75	39
15. College is important for achieving my future goals.	2	3	9	39	112
16. After finishing my homework I check it over to see if it's correct.	8	24	38	53	44
17. I enjoy talking to the students here.	5	26	38	57	41

	Strongly Disagree			Strongly Agree		
18. Overall, my professors are open and honest with me.	0	9	36	70	52	
19. When I have problems at college my family/guardian(s) are willing to help me.	7	9	23	32	95	
20. What I'm learning in my classes will be important in my future.	2	10	29	51	73	
21. When I do well in college it's because I work hard.	0	7	15	37	108	
22. I'll learn, but only if my family/guardian(s) give me a reward..	120	36	4	5	1	
23. Other students at school care about me.	13	29	43	41	41	
24. My education will create many future opportunities for me.	1	6	17	41	102	
25. When I do homework I check to see whether I understand what I'm doing.	2	8	26	65	66	
26. I enjoy talking to the professors here.	5	19	44	53	46	
27. My family/guardian(s) want me to keep trying when things are tough at college.	4	6	7	36	113	
28. I am hopeful about my future.	5	10	21	36	92	
29. Most professors at my university are interested in me as a person, not just as a student.	10	24	58	43	30	
30. Students here respect what I have to say.	4	13	57	58	35	
31. The grades in my classes do a good job of measuring what I'm able to do.	25	23	46	45	28	
32. I feel safe at college.	2	21	29	59	54	
33. Learning is fun because I get better at something.	3	8	35	56	65	
34. Other students here like me the way I am.	3	13	45	57	49	

Appendix H

Means and Standard Deviations of Dependent Variables by Years in College

Table 11.

Means and Standard Deviations of CSDCC by Years in College

Campus Climate Scale	Years in College									
	1		2		3		4		5+	
	M	SD	M	SD	M	SD	M	SD	M	SD
Peer Support	4.49	1.18	4.59	1.15	4.19	1.22	4.73	1.04	3.88	1.42
Accommodations	3.74	.964	4.03	.97	4.44	.975	3.76	1.27	3.67	.98
Disability Services	4.55	1.25	4.44	1.04	4.72	1.09	4.23	1.35	4.12	1.53
Self Advocacy	3.78	.87	4.05	1.02	4.38	1.04	4.00	.94	3.81	.81
Family Support	4.68	1.29	4.29	1.27	4.52	1.47	4.72	1.32	3.82	1.72
Campus Climate	4.71	.91	4.59	1.35	4.90	1.17	4.47	1.23	4.18	1.14
Faculty Teaching	3.75	1.00	4.05	.92	4.20	1.06	3.64	1.16	3.77	.747
Faculty Minimize Barriers	4.23	1.25	4.64	1.02	4.76	1.12	4.70	1.12	4.55	.70
Stigma	2.77	.76	2.70	1.03	2.41	1.10	3.05	.98	3.06	.84

Table 12.

Means and Standard Deviations of CLEI by Years in College

Campus Climate Scale	Years in College									
	1		2		3		4		5+	
	M	SD	M	SD	M	SD	M	SD	M	SD
Academic Self Efficacy	4.33	.41	4.30	.50	4.61	.44	4.42	.45	4.30	.43
Campus Climate Organization and Attention to Study	2.81	.91	3.28	.81	3.44	.80	3.34	.86	3.26	.78
Stress and Time Press Involvement in College Activities	3.16	.73	3.40	.72	3.42	.74	3.31	.81	3.18	.78
Emotional Satisfaction	2.73	.75	2.81	.58	2.71	.78	2.46	.85	2.54	.77
	3.54	.71	3.48	.77	3.15	.99	3.02	.69	2.81	.81
	3.57	.62	3.81	.74	4.00	.63	3.78	.64	3.62	.76

Table 13.

Means and Standard Deviations of SEI by Years in College

Student Engagement Instrument	Years in College									
	1		2		3		4		5+	
	M	SD	M	SD	M	SD	M	SD	M	SD
Professor Student Relationships Control and Relevance of School Work	3.80	.70	3.81	.71	3.99	.77	3.54	.75	3.51	.79
Peer Support for Learning	3.87	.82	3.80	1.03	3.70	1.00	3.50	.94	3.35	.81
Family Support for Learning	4.58	.61	4.22	.89	4.69	.51	4.27	1.04	4.02	1.02
Future Aspirations and Goals	4.36	.77	4.31	.68	4.55	.57	4.26	.71	4.26	.74

Appendix I

Means and Standard Deviations of Dependent Variables by Disability Diagnosis

Table 14.

Means and Standard Deviations of CSDCC by disability diagnosis

Campus	Diagnosis											
	ADHD		ASD		Health		Sensory/ Physical		Learning		Mental Health	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Peer Support	4.31	1.15	3.43	.91	4.53	1.19	4.75	1.20	4.92	.92	3.85	1.19
Accommodations	3.72	1.14	3.91	1.41	3.90	.93	4.62	.91	4.24	.85	3.87	1.12
Disability Services	4.49	1.08	3.43	.69	4.15	1.11	4.96	1.22	4.65	.80	4.20	1.47
Self Advocacy	3.83	.93	4.69	.78	4.25	.96	5.12	.83	4.18	.83	3.73	1.03
Family Support	4.07	1.64	5.54	.49	4.35	1.36	4.60	1.38	4.34	1.10	4.31	1.44
Campus Climate	4.41	1.13	4.32	1.10	4.70	1.17	5.34	.92	5.09	.93	4.09	1.44
Faculty Teaching	3.67	1.10	4.04	1.07	3.88	.90	4.85	.74	3.95	.75	3.81	1.07
Faculty Minimize Barriers	4.46	1.17	4.82	.59	4.92	.93	5.12	.84	4.54	1.05	4.31	1.24
Stigma	2.76	1.00	2.89	.64	2.79	1.00	1.95	.86	2.41	.67	3.23	1.16

Table 15.

Means and Standard Deviations of CLEI by disability diagnosis

College Learning Effectiveness Inventory	Diagnosis											
											Mental Health	
	ADHD		ASD		Health		Sensory/Physical		Learning		M	SD
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Academic Self Efficacy	4.29	.48	4.43	.33	4.51	.33	4.70	.39	4.23	.53	4.48	.39
Campus Climate Organization and Attention to Study	3.09	.91	3.17	.77	3.52	.87	3.78	.77	3.27	.73	3.29	.83
Stress and Time Press Involvement in College Activities	3.00	.72	3.59	.56	3.61	.62	3.68	.84	3.31	.90	3.21	.67
Emotional Satisfaction	2.46	.81	3.15	.40	2.81	.73	2.92	.81	3.12	.71	2.35	.60
	2.98	.84	2.86	.88	3.26	.84	3.68	.73	3.22	.93	2.97	.73
	3.62	.68	3.77	.72	3.99	.77	4.29	.58	3.67	.70	3.80	.61

Table 16.

Means and Standard Deviations of SEI by disability diagnosis

Student Engagement Instrument	Diagnosis											
	ADHD		ASD		Health		Sensory/ Physical		Learning		Mental Health	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Professor Student Relationships Control and Relevance of School Work Peer Support for Learning Family Support for Learning Future Aspirations and Goals	3.56	.79	3.70	.54	3.70	.72	4.29	.70	3.73	.69	3.77	.74
	3.46	.67	3.69	.58	3.72	.74	4.06	.62	3.57	.70	3.70	.54
	3.53	.99	3.17	.71	3.67	.92	4.04	.99	3.67	.98	3.55	.84
	3.97	1.1 7	4.86	.38	4.55	.52	4.43	1.0	4.34	.74	4.45	.74
	4.18	.72	4.26	.75	4.48	.68	4.63	.50	4.14	.82	4.34	.61

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