



THE SOCIALIZATION OF NEURODIVERGENT GRADUATE & PROFESSIONAL STUDENTS AT BIG STATE UNIVERSITY

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A Capstone Paper in fulfillment of the requirements for the degree of Doctor of Education in Leadership and Learning in Organizations at the Peabody College of Vanderbilt University in Nashville, Tennessee, USA.

AUGUST, 2022

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FROM CAITLIN

To Jessica, thank you for your passion, patience, and partnership. I have learned so much from you and truly admire the grace with which you have tackled this project while juggling so many other obligations. I look forward to seeing all the amazing things in store for you in the future.

To my brother, Ed, thank you for the ongoing support and assistance throughout this whole journey. It was fun to talk about research design, statistics, and analysis with you and discover our mutual disdain for certain software packages. I will always appreciate the words of encouragement when things felt too much.

To my village, Heather, Ed, Colin, Sarah, dad and mom for always offering support even when you yourselves needed it too. I hope I will have opportunities to pay it forward.

Finally, to my family, thank you. Carter, you probably had no idea what you were getting into when you told me to “go for it” and spend all this time, energy, and money on this degree. I know it has not been easy, so thank you. Isla, my baby girl, I did this for you. I hope that you see in me a model of what is possible for you as a woman and that you know you can do anything and be anyone you want.

FROM JESSICA

First, I would like to thank my partner in crime and research partner, Caitlin. It is not every day that you meet a kindred spirit, especially one who goes on a year and a half journey with you. Her dedication to our project, good humor, thoughtfulness, and amazing insights into our work have been invaluable, and I will greatly miss our weekly meetings together.

I would also like to thank my two employers throughout my time in this doctorate program, Pennsylvania College of Art & Design and Illinois College. My colleagues at both colleges have been a source of great support and ideas, and they gave me the time I needed to complete this important work.

My parents, Robert and Julia, have always been a source of support and guidance, and “cheerleaders” when needed. Not only are my parents role models for the human being I endeavor to become, but growing up I learned from them both as public school teachers what it means to be an effective, impactful and transformative educator.

To my children, Danny and Jacob, I find myself in awe of the amazing humans they are becoming. They serve as my daily inspiration to be better. They are also an inspiration for this capstone project, for as much as I need to prepare them for the world, I need to prepare the world for them.

And finally, to my husband Jason, I am eternally grateful for his support through the past three years. He made it possible for me to find the time to concentrate on this doctorate program, stay up late writing papers, meet with groups over the weekend and he cheered me on when I was frustrated or anxious about this capstone. We truly earned this doctorate together.

FROM JESSICA & CAITLIN

It would go without saying that immense gratitude and thanks go to our two site partners at “Big State University,” Ethriam and Arthur. Their enthusiasm for this capstone project in working to enhance the learning, support, and social experience for neurodivergent graduate and professional students is unwavering. We appreciate their kindness, guidance, insightful ideas, and dedication to our capstone. We would also like to thank the countless professionals who work in DEI, Disability Studies, Disability Resources, and Statistics fields that reviewed and gave us feedback on our project with special thanks to Ed for helping us run our statistical analysis on the *Faculty Climate Survey* results. We would also like to thank Paige and Shannon for their creative and writing prowess as we finalized the design and content of this capstone project. To the LLO faculty thank you for challenging us, guiding us to think in new and different ways, and reframing how we lead in our organizations....plus, sharing a new love for Burning Man and Mary Parker Follett. To our advisor Michael Neel, you told us that “all roads lead to McDermott” and this one did too. We will never forget your guidance, enthusiasm, and encouragement from day one. We will never write in passive voice again.



EXECUTIVE SUMMARY

In 1975, the Individuals with Disabilities Act (IDEA) was passed in the United States mandating that children and youth ages 3-21 with a disability be provided a free and appropriate public-school education (National Center for Educational Statistics [NCES], 2021). Since this time, an increasing number of students have been identified as having a specific learning disability (Singer, 1999), and now constitute over 14% of all K-12 students (NCES, 2021). Due to the increase of neurodivergent students participating in classrooms across the country, higher education institutions have now seen an increase of neurodivergent students in attendance (Pollak, 2009; Griffin & Pollak, 2009). There is, however, a dearth of understanding and research on the neurodivergent experience at the graduate and professional student level (Lizotte & Simplican, 2017).

This project, therefore, aims to understand the socialization of neurodivergent graduate and professional students at Big State University (BSU). Big State University is a prominent, public institution that is dedicated to academic excellence, an international research reputation, and fostering inclusive learning environments. Within BSU is the School of Graduate Studies (SGS), which supports the academic mission of BSU by supporting over 10,000 graduate and professional students. SGS embarked on a journey to better understand, support, and cultivate inclusive centers for learning for marginalized communities where students from diverse backgrounds find a sense of belonging at BSU and within their respective disciplines. SGS conducted a *Graduate Student Needs Assessment Survey* in the fall of 2019 and graduate and professional student focus groups in the spring of 2020. Although the SGS researchers developed findings and recommendations to enhance the disabled graduate and professional student experience at BSU specific information about the neurodivergent student experience as it differs from physical disabilities, was not explored.

Our comprehensive literature review therefore, began broadly exploring the socialization process, including its critiques, and narrowed from there to Diversity, Equity and Inclusion (DEI) efforts in the higher education landscape. Looking for more specificity on our target student population, we then studied the emergence of neurodivergence in educational systems as well as higher education faculty experiences with neurodivergence. In reviewing various studies, we also learned about the social model of disability and universal design for learning which were depicted in the literature as ways of opening access to learning spaces.

We found that across various socialization models, including the Weidman, Twale and Stein’s (2001) *Interactive Framework for the Socialization of Graduate and Professional Students* there is an assumption that the typical graduate student will have the same preparation and same access to resources needed to successfully socialize. However, there has been additional research over the last five years that ultimately criticizes the socialization process for being one size fits all, not allowing for diverse cohorts to successfully socialize. Therefore, our project design incorporated literature on and critiques of the *Interactive Socialization Framework* from 2001, and examining adaptations for the *Interactive Socialization Framework* from Weidman, Twale and Bethea (2016) as it relates to DEI concepts and identities.

We, therefore, asked the following research questions:

1. What is the SGS faculty’s understanding of the BSU’s accommodations process, and how does this understanding impact the socialization of graduate and professional students?

2. How do BSU internal structures and values impact the perceived socialization of graduate and professional students?

3. Given that faculty are primary agents of socialization, what are the factors that contribute to SGS faculty members’ cultivation of climate for neurodivergent students within their community of practice?

4. What are the factors that contribute to faculty members’ willingness to accommodate neurodivergent graduate and professional students within their community of practice?

In addition to the current literature and research on neurodivergence and the socialization of graduate and professional students, we implemented a mixed-methods study to understand the experience of neurodivergent graduate and professional students at BSU, especially through the lens of the faculty. Through the triangulation of SGS’s *Needs Assessment*, graduate student focus groups, as well as our designed *Faculty Climate Survey* and corresponding faculty focus groups, we built upon the SGS findings and recommendations with unique data. Our project’s findings and recommendations include:

RESEARCH QUESTION	FINDINGS
1. What is the SGS faculty’s understanding of the BSU’s accommodations process, and how does this understanding impact the socialization of graduate and professional students?	SGS faculty participants have a limited understanding of the University’s accommodation process, which creates barriers to implementing academic and professional supports within graduate and professional students’ community of practice.
2. How do BSU internal structures and values impact the perceived socialization of graduate and professional students?	2a. The centralized structure of support services at SSD impedes faculty understanding and ability to accommodate neurodivergent students due to a high volume of needs and limited resources.
	2b. SGS faculty participants experienced competing priorities of research, teaching and service which impacted time available for implementing inclusive learning strategies and academic accommodations for neurodivergent graduate and professional students.
3. Given that faculty are primary agents of socialization, what are the factors that contribute to SGS faculty members’ cultivation of climate for neurodivergent students within their community of practice?	SGS faculty participants who had been exposed to, or trained in universal design had more positive beliefs about neurodivergent students’ capabilities compared to neurotypical individuals in their program and in their field which in turn contributes to a more welcoming climate.
4. What are the factors that contribute to faculty members’ willingness to accommodate neurodivergent graduate and professional students within their community of practice?	SGS faculty participants who were exposed to neurodivergent individuals had an increased willingness to accommodate neurodivergent students.

RECOMMENDATION #1

NEURODIVERGENT PRE-ORIENTATION BRIDGE PROGRAM

A pre-orientation bridge program for first-year graduate and professional students would serve as a structured portal into their community of practice, provide needed cohort building, knowledge of BSU and SSD resources, and development of self-advocacy skills.



RECOMMENDATION #2

SERVICES FOR STUDENTS WITH DISABILITIES (SSD) SPECIALIST

An SSD specialist in each SGS academic division would meet the individual needs of a diverse community of neurodivergent individuals, improve communication, as well as provide the needed guidance to put reasonable, relevant, and needed accommodations into place.



RECOMMENDATION #3

KNOWLEDGE DEVELOPMENT AND INCENTIVES FOR FACULTY

Provide faculty with opportunities to learn about universal design for learning, neurodivergence, and interability communication through panels, workshops, case studies and role playing that feature experienced faculty and neurodivergent individuals. Incentives for faculty participation can include budgetary lines for resources, permission to take time for training, and course releases.



TABLE OF CONTENTS

INTRODUCTION	10
ORGANIZATIONAL CONTEXT	13
PROBLEM OF PRACTICE	14
LITERATURE REVIEW	15
SOCIALIZATION	16
DEI SYSTEMS AND STRUCTURES IN HIGHER EDUCATION	17
THE EMERGENCE OF NEURODIVERGENCE IN EDUCATIONAL SYSTEMS	18
FACULTY EXPERIENCES WITH NEURODIVERGENCE	21
SOCIAL MODEL OF DISABILITY	22
UNIVERSAL DESIGN FOR LEARNING	23
CONCEPTUAL FRAMEWORK:	24
INTERACTIVE SOCIALIZATION FRAMEWORK FOR GRADUATE AND PROFESSIONAL STUDENTS	
RESEARCH QUESTIONS	27
METHODOLOGY	28
DATA COLLECTION	28
DATA ANALYSIS	33
FINDINGS	37

FINDING #1: SGS FACULTY PARTICIPANTS HAVE A LIMITED UNDERSTANDING OF THE UNIVERSITY'S ACCOMMODATION PROCESS, WHICH CREATES BARRIERS TO IMPLEMENTING ACADEMIC AND PROFESSIONAL SUPPORTS WITHIN GRADUATE AND PROFESSIONAL STUDENTS' COMMUNITY OF PRACTICE.

FINDING #2A: THE CENTRALIZED STRUCTURE OF SUPPORT SERVICES AT SSD IMPEDES FACULTY UNDERSTANDING AND ABILITY TO ACCOMMODATE NEURODIVERGENT STUDENTS DUE TO A HIGH VOLUME OF NEEDS AND LIMITED RESOURCES.

FINDING #2B: SGS FACULTY PARTICIPANTS EXPERIENCED COMPETING PRIORITIES OF RESEARCH, TEACHING AND SERVICE WHICH IMPACTED TIME AVAILABLE FOR IMPLEMENTING INCLUSIVE LEARNING STRATEGIES AND ACADEMIC ACCOMMODATIONS FOR NEURODIVERGENT GRADUATE AND PROFESSIONAL STUDENTS.

TABLE OF CONTENTS

FINDING #3: SGS FACULTY PARTICIPANTS WHO HAD BEEN EXPOSED TO, OR TRAINED IN UNIVERSAL DESIGN HAD MORE POSITIVE BELIEFS ABOUT NEURODIVERGENT STUDENTS' CAPABILITIES COMPARED TO NEUROTYPICAL INDIVIDUALS IN THEIR PROGRAM AND IN THEIR FIELD WHICH IN TURN CONTRIBUTES TO A MORE WELCOMING CLIMATE.

FINDING #4: SGS FACULTY PARTICIPANTS WHO WERE EXPOSED TO NEURODIVERGENT INDIVIDUALS HAD AN INCREASED WILLINGNESS TO ACCOMMODATE NEURODIVERGENT STUDENTS

RECOMMENDATIONS	50
RECOMMENDATION #1: NEURODIVERGENT PRE-ORIENTATION BRIDGE PROGRAM	51
RECOMMENDATION #2: SERVICES FOR STUDENTS WITH DISABILITIES SPECIALIST	52
RECOMMENDATION #3: KNOWLEDGE DEVELOPMENT AND INCENTIVES FOR FACULTY	53
CONCLUSION	56
REFERENCES	57
FIGURES	
FIGURE 1: MAJOR CONCEPTS OF THE LITERATURE REVIEW	15
FIGURE 2: WEIDMAN, TWALE AND STEIN'S INTERACTIVE FRAMEWORK FOR THE SOCIALIZATION OF GRADUATE AND PROFESSIONAL STUDENTS (2001)	25
FIGURE 3: RECONCEPTUALIZATION OF THE INTERACTIVE FRAMEWORK FOR THE SOCIALIZATION OF GRADUATE AND PROFESSIONAL STUDENTS (2016)	26
FIGURE 4: INPUTS, ENVIRONMENT, AND OUTCOMES MODEL	32

TABLE OF CONTENTS

TABLES

TABLE 1: SUMMARY OF DESCRIPTIVE STATISTICS FOR FACULTY CLIMATE SURVEY METHODS	36
TABLE 2: SUMMARY OF KEY INDEPENDENT VARIABLES AS PREDICTORS OF FACTORS	34
TABLE 3: NUMBER AND PERCENTAGE OF DISABLED STUDENTS WHO REQUESTED ACCOMMODATIONS	38
TABLE 4: REASONS WHY DISABLED STUDENTS DID NOT SEEK ACCOMMODATIONS	39
TABLE 5: DISABLED STUDENTS' RESPONSES REGARDING THE EASE OF THE ACCOMMODATIONS PROCESS	41
TABLE 6: DISABLED STUDENTS' RESPONSES REGARDING THE EASE OF IMPLEMENTING ACCOMMODATIONS	41
TABLE 7: DISABLED STUDENTS' RESPONSES REGARDING THE CLARITY OF THE ACCOMMODATIONS PROCESS	42

APPENDICES

APPENDIX A: FACULTY CLIMATE SURVEY QUESTIONS	62
APPENDIX B: FACULTY CLIMATE SURVEY RECRUITMENT COMMUNICATIONS	
APPENDIX C: FACULTY CLIMATE SURVEY DATA RESULTS AND ANALYSIS	
APPENDIX D: FACULTY FOCUS GROUP INTERVIEW PROTOCOL AND QUESTIONS	
APPENDIX E: FACULTY FOCUS GROUPS CODEBOOK	



INTRODUCTION

This quality improvement project explores the socialization process for neurodivergent¹ graduate and professional students at a large public research university Big State University (BSU). In 2019 the School of Graduate Studies (SGS) announced its new strategic plan targeting innovation and collaboration; diversity and belonging; community development; as well as the climate and culture to address needed environmental changes, and enhance the graduate and professional student experience.

To begin their work, SGS first conducted a *Graduate Student Needs Assessment Survey* (Needs Assessment) in the fall 2019 semester on the experiences of disabled graduate and professional students at BSU. Graduate and professional students include post-secondary students seeking their masters, doctoral or professional degree. SGS chose this affinity group to assess first due to reports from disabled graduate and professional students indicating troubling experiences with faculty. These experiences were related to disabled students not being able to receive the formal academic accommodations in which they were legally entitled due to confusion between SGS, students' academic departments, and the Office of Services for Students with Disabilities (SSD) regarding who would make the decision on how best to implement the students' accommodations (personal communication, January 25, 2022). Because of these behaviors and experiences, several disabled graduate and professional students withdrew from the University, which opened up the University to possible civil rights grievances and failed to align with SGS's strategic plan. The *Needs Assessment*, therefore, sought to measure disabled graduate and professional students' perceptions of the school's climate as it related to their experience

1 For the aims of our project, "neurodiversity" is an umbrella term used to characterize sensory differences in individuals. Neurodivergent individuals may display language difficulties, communication challenges, or difficulty modulating their activity and/or attention. In addition, neurodivergent individuals may also display heightened abilities to focus on small details within complex patterns, superior artistic skills, and higher-than-average entrepreneurial skills. Medically, and for the purposes of receiving disability accommodations, neurodivergent individuals can typically be diagnosed with any one, or combination of any of the following: attention deficit hyperactivity disorder, autism spectrum disorder, dyslexia, dyspraxia and dyscalculia. (Griffin & Pollak, 2009; Singer, 1999; Blume, 1998; and Appleyard, 1997). In addition, language plays a large role in creating diverse and inclusive learning environments, therefore, we will use identity-first language to describe members of the disabled and neurodivergent communities. As the Association of University Centers on Disabilities (AUCD) notes, "identity-first language emphasizes that the disability plays a role in who the person is, and reinforces disability as a positive cultural identifier" ("Portrayal of people with disabilities", 2011).

within their respective academic departments and learning environments. These learning environments can include classroom spaces, labs, clinicals, and field experience, as well as the BSU accommodations process. The *Needs Assessment* and subsequent focus group data revealed a significant percentage of disabled graduate and professional students do not seek accommodations for fear of stigma or shame. This fear and shame may already be a part of students' self-narrative, and exacerbated by experiences with their faculty and academic departments.

When we began this project, SGS's data made us think that the BSU climate and culture constrain disabled students' ability to fully participate in their chosen community of practice. To fully participate in one's community of practice, or chosen field of study, requires an accessible and inclusive environment. For some disabled students, not seeking accommodations means not accessing parts of the community or learning processes, and could lead to disengagement and failure to socialize— just as SGS had seen with students dropping out. Weidman, Twale, and Stein's socialization framework (2001) elaborates on what it means for a graduate and professional student to move through a community of practice and is the conceptual frame through which we view our research for this paper. Their *Interactive Framework for the Socialization of Graduate and Professional Students* (Framework) highlights that a graduate student's professional and scholarly identity development relies on an inclusive environment where they can interact, integrate, and learn with peers and faculty. Using Weidman, Twale, and Stein's definition, socialization, "refers to the processes through which individuals gain the knowledge, skills, and values necessary for successful entry into a professional career requiring an advanced level of specialized knowledge and skills," (2001, p. iii). The engagement required to successfully socialize in one's scholarly or professional field depends heavily on the students' perceptions of the climate and culture. This sense of belonging impacts graduate and professional students' ability to effectively socialize and integrate into the academic department and professional discipline (Tinto, 1993 as cited in Golde, 2005). For neurodivergent students, whose disability is often invisible, the culture and climate in which they operate may offer subtle cues about their belonging. Faculty attitudes about neurodiversity and willingness to accommodate neurodivergent students' needs influence not just the student experience but the overall climate and culture within the community of practice.

Understanding how climate and culture impact learning environments is important as a growing body of literature suggests that the number of K-12 students diagnosed as neurodivergent has increased close to 6% since the Individuals with Disabilities Education Act (IDEA) passed in 1975. In addition, close to 14% of today's K-12 students are supported by accommodations under IDEA (NCES, 2021). Colleges and universities are seeing a concomitant increase in neurodivergent undergraduate and professional students requesting accommodations with some studies estimating close to 30% of undergraduate students are neurodivergent (Conditt, 2020). This data is notable because regardless of age or level of education, by law, all public and private educational institutions receiving Title IV funds must provide appropriate accommodations to disabled students (ADA, 1990), including neurodivergent students. Studies of disabled students' experiences in higher education are limited in comparison to studies of other marginalized groups' experiences in higher education, but what is even more understudied at this time are disabled students entering graduate education. The national datasets that are available on disabled graduate and professional students are incomplete and inconsistent.

The last *Profile of Students in Graduate and First-Professional Education* by the NCES (2010) looked at the graduate and professional student enrollment in 2007-2008. This *Profile* notes that of the over three million graduate and professional students enrolled, 7.9% of masters-level and 6.6% of doctoral-level students indicated that they had some sort of disability. Furthermore, of those students who reported

having a disability, 5.9% of masters-level and 11.9% of doctoral students had a specific learning disability. This term is used frequently in K-12 education to indicate a child with a diagnosed or undiagnosed neurodivergence. NCES defines specific learning disability as “having a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language” (2010, p. 42). While the general profile on graduate and professional students has not been repeated recently, NCES frequently explores the financial aid profile of graduate and professional students through the *Profile and Financial Aid Estimates of Graduate Students*. This is the first time the *Financial Aid Profile*, compiled in 2015-2016, included disability status in the report. Unlike NCES’s general *Profile*, this *Financial Aid Profile* lacks the specificity that would delineate between physical and specified learning disabilities. This *Financial Aid Profile* also indicates that of the four million graduate and professional students enrolled in 2015-2016, 12% of masters-level students and 12.2% of doctoral students reported some type of disability.

Although there is a documented increase in the number of neurodivergent individuals entering post-secondary education, there is a gap in the literature and research in understanding how neurodivergence is experienced at the graduate and professional level (Lizotte & Simplican, 2017; and BSU Summary Report, 2020). Therefore, this particular project is important to SGS at BSU and the general field of graduate study due to the limited studies devoted to this specific student population.

In this project we use a mixed-methods approach to investigate the experiences of neurodivergent graduate and professional students, faculty members’ perceptions of the structures and systems which define their professional community of practice, as well as their beliefs about and willingness to accommodate neurodivergent graduate and professional students. The findings from our analysis inform our recommendations, which can be useful to SGS at BSU in designing and implementing support and training resources for neurodivergent graduate and professional students and graduate faculty respectively. We hope that from our findings, faculty will question whether the current path towards a graduate or professional degree is the only path, and consider how that path, as it is now, might exclude certain students. This project’s findings could also prompt faculty and higher education leaders alike to consider looking at tools like universal design not just in the classroom, but in all spaces as the university strives for more equitable and inclusive systems, structures, and spaces.



ORGANIZATIONAL CONTEXT

Big State University (BSU) is a large, public university located in the midwest. BSU has a long and successful history fulfilling its mission to develop leaders and citizens who challenge the status quo and improve the future. Today, SGS enrolls more than 10,000 graduate and professional students across multiple campuses and academic divisions.

BSU, like many large universities, is highly decentralized. SGS students enroll at one of three campuses, in programs within multiple academic divisions. SGS offers certificates, Master's, and Doctoral degrees. In addition to the dean of SGS, each of the divisions reports to an Associate Dean, who supports faculty and the graduate and professional student experience in their respective division, while providing leadership in various service roles including task forces focused on diversity, equity and inclusion (DEI). Assistant Deans within SGS also fulfill multiple administrator roles, which provide a focus on DEI initiatives. Despite the large number of students and decentralized nature of the university, some university offices are centralized, including the Office of Services for Students with Disabilities (SSD).

SSD offers a diverse range of academic accommodations, innovative resources, and technology to academically support students. The SSD team advocates for students, as well as supports faculty and staff who are looking to create accessible and inclusive learning environments. As a large university, BSU hosts 30,000 undergraduate students in addition to the 10,000 graduate and professional students. SSD provides support and formal academic accommodations to 3,971 undergraduate and graduate and professional students of which 913 (23%) are graduate and professional students. Furthermore, 1,852 (46.6%) out of the 3,971 students SSD supports have listed in their file at least one neurodivergent diagnosis as we have defined it for this study (personal communication, BSU Associate Director of Student Accessibility and Accommodation Services, June 2, 2022). Despite best intentions, SSD's volume relative to the staffing resources translates into slow or no response to student or faculty inquiries. To improve the accommodations request and processing structures, SSD transitioned to a new online portal during the 2021-2022 academic year. With new leadership at SSD and software, this change has been challenging for many BSU community members.

While BSU and the departments within the university including SSD and SGS have remained on par with peer institutions when it comes to crafting and enacting DEI strategic plans and developing racially diverse student cohorts, BSU leadership has placed little emphasis on promoting diversity and inclusion among other identities such as neurodivergent students. Recent efforts to expand diversity, equity and inclusion in SGS are part of the most recent strategic plan focused on being a student-centered, faculty led, and staff-supported graduate school. At this point in history, BSU, and SGS specifically, have an opportunity to challenge the status quo in American higher education.



PROBLEM OF PRACTICE

In his first annual state of the school address in 2019, the SGS dean noted that the traditional apprenticeship model used in educating and socializing graduate and professional students at SGS needs to be reconsidered. He cited pressures creating tensions within the model, such as a high number of mental health concerns among graduate and professional students and faculty members' lack of preparation for guiding students into careers outside of academia. He outlined a new strategic plan that seeks to promote collaboration and innovation across its community of students, alumni, faculty, and staff towards a more “student-centered experience.”

The school's strategic plan, along with disabled graduate and professional students from select departments leaving their programs as a result of the current climate and culture, prompted the *Needs Assessment* and corresponding graduate and professional student focus groups. The *Needs Assessment* recorded that 39% of self-identified disabled students choose not to seek accommodations (BSU Summary Report, 2020), and comments from student focus groups talked about stigma and shame leading to students feeling fearful about disclosing disability status. Additional comments from the focus groups discussed negative faculty attitudes and a lack of willingness to accommodate disabled students.

Due to the results of the *Needs Assessment* and student focus groups, SGS was concerned about the toll the existing model of graduate education takes on disabled graduate and professional students. If the culture and climate problems with SGS go unaddressed, disabled graduate and professional students will continue to suffer and choose to drop out of their programs. Furthermore, most higher education research examines disabled undergraduate students, however, the socialization experiences and barriers disabled graduate and professional students face differ from those of undergraduate students (Lizotte & Simplican, 2017). Given the rise of neurodivergent students entering graduate education, as a subset of the disabled graduate and professional student population, a more specific look at this identity group is needed. The problem of practice explores the perceived structural and cultural factors that prevent neurodivergent graduate and professional students from becoming full participants in their chosen community of practice.

LITERATURE REVIEW

In what follows, we review the literature pertaining to the socialization of graduate and professional students. A review of literature on socialization illustrates how the model for socialization has evolved over the years but the process itself has not changed. Recent scholars observe how the socialization process is normative, making it challenging for marginalized students to successfully socialize. At the core of the socialization process is a concern about diversity, equity, and inclusion (DEI); therefore, we also reviewed literature on the systems and structures within higher education that constrain access and inclusion. As an area of DEI concern, we discuss the emergence of neurodivergence in higher education. Since faculty members are key figures in the higher education space as well as in the socialization process, we review the literature on faculty experiences with neurodivergence. Of particular interest are studies that indicate predictors of positive attitudes and willingness to accommodate neurodivergent students as these outcomes align with our exploration of climate and culture. Finally, we explore the literature on approaches to making spaces more inclusive and accessible including, the social model of disability and universal design for learning.



Figure 1. Major Concepts of the Literature Review



SOCIALIZATION

Socialization in graduate school refers to the process through which an individual becomes a scholar or professional in their chosen field (Weidman, Twale & Stein, 2001). While scholars have noted that both internal and external factors impact socialization, it is really over the past two decades that scholars have realized that socialization is not linear and is rather complex. Golde (1998) noted that graduate and professional students socialize over the course of four phases, each of which answers a specific question that propels the student towards the final outcome of identification and commitment to a given field. From the initial phase, a graduate and professional student answers questions about self-efficacy in their chosen domain. If a student does not feel as though they can handle the work of graduate school, socialization is not possible. If capability is affirmed, interest is then questioned. Completing a graduate or professional degree requires significant investments and it makes sense that students would need to reassess their interest as the investment grows.

However, an important part of graduate and professional student socialization is preparing for professional work; thus, the next question is whether or not the student wants to do this work professionally. It is one thing to study a subject, but committing to a lifetime of working in that arena is necessary to reach the outcome of socialization, which is identifying as a professional or scholar in a given field. Hence the final phase is prompted with a question of belonging. Throughout the socialization process, an individual is not only learning formally, but they are also learning values, norms, attitudes, and behaviors deemed appropriate for the field. For a student to be socialized means accepting these norms and believing that they belong. It is this final piece, the sense of belonging, where scholars have focused more recently.

In a later work, Golde (2005), discussed the academic socialization of graduate and professional students. The students' socialization is shaped, not by the university, but by the disciplinary norms and practices, and by the nature of research and scholarship in the discipline as interpreted and defined by the academic department. "How the life of a disciplinary practitioner is portrayed to those who are apprentices (graduate and professional students) is quite different in different departments with differing impacts on the students," (Golde, 2005, p. 680). Therefore, when considering the socialization of graduate and professional students, the values and norms of the department and discipline need also to be considered.

Gardner (2008) challenged the norms of the socialization process within American institutions of higher education. While Gardner agreed with the premise of existing socialization models where institutional culture shapes the socialization process, she argued that the cultures are normed to exclude certain individuals. Specifically, she claimed that socialization processes are normed to fit a certain "mold," that is young, white, single, and male. Focusing on women, students of color, older students, students with children, and part-time students, she believed that the modern socialization process, "does not take into account the diversity of backgrounds and experiences of today's students, resulting in a less than satisfactory experience for members

of these student populations,” (Gardner, 2008, p. 130). She posited that this normative process may contribute to doctoral student attrition, which in recent years is estimated between 40% and 50% (Litalien & Guay, 2015). Gardner’s premise, therefore, linked successful socialization with inclusion. Meaning that without an inclusive socialization process, many graduate and professional students will not complete their program and reach full identification and commitment to their chosen field.



DEI SYSTEMS AND STRUCTURES IN HIGHER EDUCATION

Although institutions of higher education have made strides in recent years towards creating inclusive spaces for all students, relevant DEI literature suggests that much of the work is performative and there is still a long way to go. Stewart (2017) noted that higher education has a problem with actually living up to its stated values of diversity and inclusion. Similar to Nkomo et al.’s (2019) claim that many organizations merely talk about diversity as a value, Stewart argued that institutions of higher education (IHEs) use a “language of appeasement” to talk about the value of diversity and inclusion accompanied by surface-level initiatives that calm student activists without upsetting donors and other influential stakeholders. Acts like establishing and hiring a chief diversity officer, establishing identity-specific scholarships, and “cluster hiring” of marginalized faculty are the surface-level actions Stewart viewed IHEs doing to appease all stakeholders. However, she proposed that IHEs need to go beyond diversity and inclusion and move towards equity and justice, which would require asking tougher questions and taking stronger, deeper actions towards change. Stewart challenges higher education to go beyond diversity and inclusion and focus on equity and justice if schools want to see real change.

Faculty, as leaders within various university spaces, play an important role in such a transformational change effort. For example, the University of Wisconsin, Green Bay assessed the faculty’s equity orientation score, which measures to what extent faculty view students’ strengths versus deficits. Researchers measured how the score impacted students’ retention based on their interaction in an elective first-year seminar course. The students who participated in classes where the faculty’s equity orientation was high, retained at significantly higher rates than those who did not participate in the first-year seminar course. The sobering result of this research was that students who participated in first-year seminar courses where the faculty’s equity orientation score was low, the students retained at very low rates, to the point where the researchers felt those students would have done better by not even participating in the first-year seminar program (Boswell & Bartell, 2022).

To enhance educators’ equity orientation, what is needed then is radical inclusion; inclusion that goes beyond the neurotypical norms, where the environments need to be razed to the ground and rebuilt with the needs of all students’ sensory needs in mind (Ndluvo, 2019). Evoking the social model of disability, Ndluvo (2019) asserted that disabled students are excluded from learning as the higher education system seeks to change the student rather than change itself to be inclusive of all students. He also cited Titchkosky (as cited in Ndluvo, 2019, p. 234) who notes that how disability is understood by the community is what defines their actions

around the inclusion of these individuals, therefore how words and narratives are used must be carefully considered. Furthermore, Ndlovu (2019) found that the primary purpose of the accommodations offered to disabled students is so universities can “tick off” tangible items on their list. This way the university can say that it is being inclusive of disabled students and fulfill its moral imperative to be inclusive of all students as a higher education institution.



THE EMERGENCE OF NEURODIVERGENCE IN EDUCATIONAL SYSTEMS

With the implementation of the IDEA act in 1975, K-12 schools in the United States have moved from excluding nearly 1.8 million children with disabilities (“A History of the Individuals with Disabilities Act,” IDEA) to support 7.2 million children with disabilities with special education and related services designed to meet their individual needs in the 2021-2022 school year (IDEA, 2022). In a recent summit hosted by the United States Department of Education, it was announced that in an effort to better address the learning and mental health needs of disabled students, and the training needs of educators to create inclusive learning environments for disabled students, the Biden Administration has proposed a \$3.3 billion increase to IDEA (Department of Education, 2022). Theoretically, this course of action means neurodivergent students will see an increase in the level of academic and social support in the classroom, and educators will better be able to understand and support students’ needs.

Since the 1970s researchers have been looking at how educators have come to understand neurodivergent individuals. “In America, we make something of differential rates of learning to the point that the rate of learning rather than the learning is the total measure of the learner,” (McDermott, 1993, p. 272). McDermott (1993) studied children in a classroom via videotape from 1976-1978 and specifically reflects on the experience of Adam who was identified with an “other specified learning disability,” which for Adam was ADHD. A learning disability has become a political label ascribed to a student who has some lapse in their development and this label can socially construct an identity that prevents an individual from personal and professional growth (McDermott, 1993). Adam’s learning environment was constructed to make his disability and his perceived deficiencies apparent.

Since McDermott published his study in 1993, the development of social media platforms and other web-based technologies have allowed individuals with learning disabilities to connect with one another in new and supportive ways (Singer, 1999; Rogers, 2012). These emerging communities have called for atypical brain wiring to be understood, and for individuals with learning disabilities to be appreciated for their gifts encapsulating the more positive and empowering notation of “difference” as opposed to “deficit.” This philosophy has come to be known as neurodiversity (Griffin & Pollak, 2009; Singer, 1999; Blume, 1998; Appleyard, 1997). Due to this awareness of neurodiversity across the globe, there has been an increase in the number of individuals being identified with learning disabilities (Nerenberg, 2020), as well as increased support, resources, and programs that provide access to higher education (Pollak, 2009; Griffin & Pollak, 2009).

A neurodiversity perspective encourages us to construct positive niches or advantageous environments that minimize weaknesses and maximize strengths, thereby helping students flourish in school (Armstrong, 2012). This perspective also highlights a need for society to apply positive attitudes held about biodiversity, cultural diversity and diversity among human brains (Hendrickx, 2010; Armstrong, 2012; Nerenberg, 2020). The spectrum of neurodiversity challenges us to consider the individual's contribution to learning within a larger educational framework. For example, Armstrong (2010) noted that human brains work more like an ecosystem than a machine; the brain is a biological organism. "Each individual's brain is more like a unique rain forest teeming with growth, decay, competition, diversity, and selection," (Armstrong, 2010, p. 10).

Creating a positive niche for neurodiverse learners then requires that, "educators view the entire school as a complex network of environments, any one of which can serve at any given time as an effective micro-habitat for meeting a specific need of a neurodiverse student," (Armstrong, 2012, p. 15). This strategy emphasizes that strength-based learning with individualized support and multi-sensory teaching approaches are essential to the learning process for neurodivergent learners. (Henrickx, 2010; Armstrong, 2012).

Colleges and universities today are slowly shifting the climate around neurodivergence, and establishing transition programs, formal academic accommodations, as well as continual academic and social support programs for neurodivergent students (Accardo, Kuder Woodruff, 2018; Gilliespie-Lynch et al., 2017). What is to be determined is whether or not these programs and supports meet the unique needs of this heterogeneous population of students. Several studies over the past six years have focused on examining this question with a specific focus on the autistic community, and what services and supports they find most valuable. From these studies, six themes are prevalent in the support of neurodivergent students: transition programs, peer mentorship, academic coaching, social engagement, self advocacy, and creating welcoming spaces and places on campus where neurodivergence is understood and appreciated (Clouder et al., 2020; Scheef, McKnight-Lizotte & Gwartney, 2019; Accardo & Kuder Woodruff, 2018; Gilliespie-Lynch et al., 2017).

What these six themes denote about the neurodivergent experience is that transitioning into and traversing learning environments is complex. For neurodivergent students, leaving behind familiar structures, people, and environments to face new challenges can be frightening, "aside from their engagement with academic expectations their entire university experience, including management of change, negotiation of social interactions and striving to achieve a degree of independence, is clouded by past experiences and apprehensions," (Kwon, Kim & Kwak, 2018, as cited in Clouder et al., 2020, p.773). Furthermore, neurodivergent students have been participating in the multidimensional concept of masking, many since childhood, which is a term used by the autistic community to characterize the suppression of the aspects of self and self-identity in order to avoid harm, "appear normal" and/or be accepted by the communities in which they participate (Miller, Rees & Pearson, 2021). Their sense of self as a neurodivergent individual has been socially informed by the educational environments through which they have passed as McDermott (1993) described, and their attempts to "identity shift and appear normal through masking have left a toll internally on an individual's sense of self and identity, where individuals are no longer sure where their authentic identity begins and the masking identity ends," (Miller, Rees, & Pearson, 2021). This can all lead to neurodivergent students feeling anxious, depressed, overwhelmed, and helpless, which impacts students' participation in learning, as well as being perceived to act impulsively (Clouder et al., 2020; Gilliespie-Lynch et al., 2017).

Transition or bridge programs are one way higher education is looking to reframe and help neurodivergent students make sense of the community of practice in which they are about to enter to reduce the negative effects of change. For graduate and professional students, bridge programs serve as a portal into their antic-ipatory and organizational socialization process in their chosen discipline, especially for

underrepresented communities where their self-narratives and identities need to be woven into the fabric of what it means to be a professional in their field (McCoy & Winkle-Wagner, 2015).

Whereas bridge programs help neurodivergent students transition, sustained support programs are needed to address the atypical sensory processing, inflexibility, executive functioning difficulties, challenges engaging in self-advocacy, social difficulties, and mental health challenges postsecondary neurodivergent students face (Gilliespie-Lynch et al., 2017). Studies have shown that social engagement programs are most utilized by neurodivergent students when there is a focus on building relationships within a cohort of neurodivergent students instead of a focus on social skills development with neurotypical students (Accardo & Kuder Woodruff, 2018; Gilliespie-Lynch et al., 2017). Peer mentorship and academic coaching also play a role in personalizing support for the diverse array of neurodivergence by creating spaces and places of belonging where neurodivergence is appreciated, and unique academic and social interventions are discussed (Scheef, McKnight-Lizotte & Gwartney, 2019; Accardo & Kuder Woodruff, 2018). Furthermore, in all of the studies we reviewed, the attribute which neurodivergent students valued the most is self-advocacy skills. In Gilliespie-Lynch et al.'s (2017) mixed methods study of autistic students and students with other learning disabilities, they found that self-advocacy interventions should focus on students' knowledge of rights as a disabled student in higher education, self-awareness of sensory needs, leadership, self-regulation, and the communication skills needed to ask for accommodations and additional support.

As programs for neurodivergent students continue to grow, what remains constant is the legal requirement through ADA (1990) to provide reasonable accommodations. Common formal academic accommodations provided for neurodivergent students can be extended time on tests, note takers, text-voice readers, social navigation supports, receiving copies of the instructor's notes, recording lectures, and a distraction free test environment (Scheef, McKnight-Lizotte & Gwartney, 2019). There can be a tension though in how accommodations are interpreted and academia's perceived requirements of what it means to demonstrate competencies and knowledge. Evan et al. noted that reasonable accommodations are, "changes in the learning environment that afford students with disabilities equal educational access without decreasing program or academic standards," (Evan et al., 2017, as cited in Pena, Gassner & Brown, 2021, p. 236). Therefore, accommodations are not "special" or meant to reduce the rigor of the academic or professional pursuit, but to reduce barriers to participation in learning. Beyond formal academic accommodations, the diverse sensory needs of neurodivergent students, however, require more flexible supports that are designed with the principles of universal design for learning (UDL) in mind in order to help neurodivergent students succeed in higher education (Gilliespie-Lynch et al., 2017). Therefore, when looking to understand how neurodivergent graduate and professional students are socialized, we must understand self-narratives, as well as the systems and structures through which neurodivergent students move, since these self-narratives, systems and structures further inform and impact neurodivergent social identity.



FACULTY EXPERIENCES WITH NEURODIVERGENCE

If the existing literature on undergraduate neurodivergent student experiences is any indication of what graduate neurodivergent students experience, then the faculty role in providing accommodations must be discussed. Several studies (McCarron, 2017; Skinner, 2007; Lombardi, Murray & Gerdes, 2011) have examined faculty attitudes, beliefs, willingness, and efforts surrounding neurodivergent student accommodations, which have been helpful in framing our inquiry. McCarron (2017) conducted a mixed methods study to examine how faculty attitudes and knowledge about neurodiversity impacted the actions they took to accommodate students. She found that faculty attitudes and beliefs about neurodivergent students are wide-ranging from fully capable and equally intelligent as neurotypical peers to less intelligent than their peers and that students unfairly took advantage of accommodations. Additionally, McCarron (2017) found that personal experience, whether it is exposure to another neurodivergent individual or personally identified as neurodivergent, had both positive and negative impacts on the faculty's willingness to provide accommodations. On the positive side, some faculty with experience in working with neurodivergent students understood the importance of accommodations and had a high willingness to accommodate; however, faculty who identified personally as neurodivergent had lower willingness to accommodate. One faculty interviewee described their own prior experience as “suck it up and do it” (McCarron, 2017, p. 344). This attitude impacted faculty's willingness to accommodate.

Like Skinner (2007), McCarron also found that perceived effort predicted willingness to provide accommodations. Meaning, if faculty felt supported in their efforts by the institution to accommodate students, then effort required was deemed low and willingness was high. One of the most critical findings was that willingness to provide accommodations is not always enough to actually provide accommodations; support is needed in the form of connection to and support from the institution's disability services office as well as provision of training and knowledge on neurodivergence and accommodations. McCarron's findings echo those of others, notably Lombardi, Murray and Gerdes (2011) who found that training and exposure to concepts like universal design positively transformed faculty attitudes and actions surrounding accommodations.

Despite the increase in neurodivergent students enrolled in postsecondary educational institutions, there has been a documented lack of understanding and/or empathy among postsecondary faculty. Beilke and Yssel (1999) conducted a study to measure college students' perceptions of faculty who have students with approved accommodations. Working with a larger midwestern public university, the researchers interviewed students approved for accommodations about their experiences with faculty, both positive and negative. Students with physical disabilities tended to have some positive experiences with faculty. Neurodivergent students, however, tended to have far fewer positive experiences and had the extra burden of having to prove their disability. The study concluded that, “Easily verifiable, physical disabilities do not place faculty in the position of compromising academic integrity or being duped into “believing” students who only claim to need special assistance,” (p. 364). Some students in Beilke and Yssel's (1999) study even mentioned faculty members denied them accommodations saying they were not needed, or faculty discouraged students from remaining enrolled

in their course once an accommodation request was made. The lack of understanding and resistance to providing accommodations to neurodivergent students creates an unwelcoming climate.

The above studies emphasize the importance of institutional support, training, and increased awareness and knowledge surrounding both neurodiversity and accommodations both broadly and at specific institutions. Marquis et al. (2016) built on this research emphasizing the need for inclusive teaching but recognized the gap between faculty attitudes about inclusive teaching and their actual teaching. Taken together, the researchers suggest that the key to increasing faculty awareness and knowledge of neurodiversity and willingness to provide academic accommodations requires institutional support and training. Without these resources, faculty, the leaders of their respective communities of practice, cannot be truly inclusive and equitable.



SOCIAL MODEL OF DISABILITY

The social model of disability is one model intended to make spaces more inclusive and equitable though it is still a relatively new perspective. British social worker and scholar, Mike Oliver, coined the term “social model of disability” in 1983 referring to a paradigm under which social workers should be operating when working with disabled individuals. Disabled individuals’ bodies and minds were considered deficient and defective. However, in 1975, the Individuals with Disabilities Education Act (IDEA) ushered in a new era for disabled children, affirming their right to education. “Section 504” of the Rehabilitation Act of 1973 affirmed the rights of people with disabilities to equal access and nondiscrimination in institutions, programs, and services that receive federal funds, including essentially all colleges and universities,” (Ashmore & Kasnitz, 2014, p. 23). IDEA challenged society’s understanding and assumptions about what it meant to be disabled. Current laws and regulations focus on individuals who are defined through the individual or medical model where the focus is on what needs to be done for or to them. In Simi Linton’s (1998) *Claiming Disability*, Linton summarized the effects of the medical model:

“The decision to assign medical meanings to disability has had many and varied consequences for disabled people....[T]he medicalization of disability casts human variation as deviance from the norm, as pathological condition, as deficit, and, significantly, as an individual burden and personal tragedy. Society, in agreeing to assign medical meaning to disability, colludes to keep the issues within the purview of the medical establishment to keep it a personal matter and “treat” the condition and the person with the condition rather than “treating” the social processes and policies that constrict disabled people’s lives” (p. 11).

Theorists have argued that structures and systems within society are creating barriers for disabled people rather than simply their individual impairments (Oliver & Sapey, 1983; Shakespeare & Watson, 2001). Merely meeting legal requirements for providing necessary treatments or accommodations is insufficient in meeting the needs of disabled people.

The social model of disability presents a different view of disability as a “contextual variable, dynamic over time and in relation to circumstances but tied to a health condition,” (World Health Organization, 2011). What defines someone as disabled is due to society’s actions and attitudes, rather than the condition itself (Clouder et al., 2020). Disability, therefore, is an evolving construct that results from an interaction between the disabled person and the attitudinal and environmental barriers that hinder that individual from their full and effective participation in society on an equal basis (U.N. Convention on the Rights of Persons with Disabilities art. 1). Adopting this view requires us to question how we can adjust the social environment rather than simply adjusting the individual. Oliver (2013) acknowledged that the individual model does not need to be completely abandoned; rather, both models should be considered when evaluating barriers for disabled people in various contexts.

Using the social model of disability as a guide, this project considers how the SGS communities of practice across various disciplines enable or hinder neurodivergent students’ full participation. Further, we recognize that SGS’s accommodations process is the actualization of the medical model.



UNIVERSAL DESIGN FOR LEARNING

Universal design for learning (UDL) is an approach to creating inclusive spaces that researchers have connected to faculty willingness to provide accommodations in a classroom. Conceived by educational researchers in the 1980s, the goal of UDL is to improve learning for students with learning disabilities through the use of technology (CAST, n.d.). UDL acknowledges that all humans do not learn the same way, and, therefore, this approach offers guidelines for making learning accessible to everyone. These guidelines encourage curriculum designers to build knowledge, skill and interest in learning across all platforms while also reducing barriers to learning for all individuals. To do this, UDL offers three principles of design:

- Representation- providing content in multiple media with varied supports along the way
- Action and Expression- providing students with various models to demonstrate knowledge gained
- Engagement- providing students multiple entry points into content, recognizing that what interests and motivates one student differs from other students

The essence of UDL is accessibility for all, but it is not always easy to implement. Despite the correlation between increased training and knowledge about accessibility and accommodations (McCarron, 2017; Marquis et al., 2016), there are still barriers preventing UDL from being widely learned and adopted at IHEs. A lack of both faculty interest and institutional resources are such barriers (Raue & Lewis, 2011 as cited in Lombardi, Murray & Gerdes, 2011). Ableser and Moore (2018) discussed how reaching UDL standards, especially in a digital environment, requires resources many IHEs do not have or do not have in abundance. Building new and updating old digital content, like course websites and materials, to meet standards entails both technical know-how and time, things faculty members may or may not have.

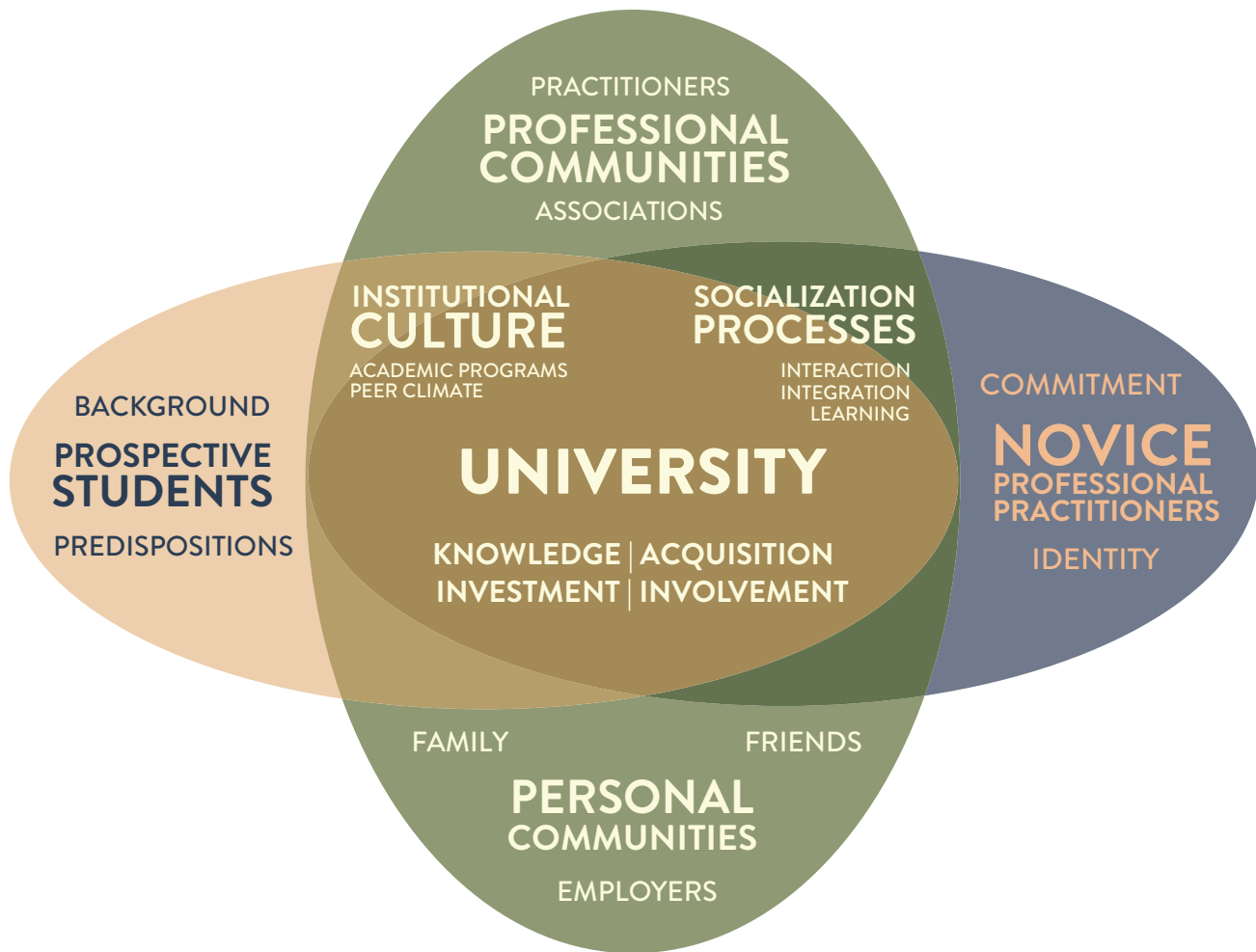
Given what we know from McCarron about faculty attitudes and actions surrounding accommodations, it is critical that various levels of support exist within IHEs' communities of practice. Graduate and professional students' socialization, or how they become full participants in their communities of practice either as scholars or professionals, depends on their full participation in the community. However, the existing barriers are vast. Faculty attitudes and beliefs, along with a lack of knowledge and training, prevent graduate and professional communities of practice from being truly inclusive and equitable. Tools like UDL mitigate these barriers thereby improving the overall socialization of neurodivergent graduate and professional students.



CONCEPTUAL MODEL OF SOCIALIZATION

The conceptual lens through which we explore SGS's problem of practice is Weidman, Twale and Stein's *Interactive Framework for the Socialization of Graduate and Professional Students* (2001). The *Framework* conceptualizes four different stages of the graduate and professional student's socialization: anticipatory, formal, informal and personal. The anticipatory stage is when the student prospectus various aspects of the field. This is an ongoing process as the student progresses from a classroom into a lab or other applied work setting, which interacts with the formal setting where students learn from faculty. The informal stage is when the student interacts with peers and learns the values and community norms. This stage and its key activities, like observation and communication, interact with the other stages. The final stage, personal, is the stage where the student develops and internalizes their professional or scholarly identity. Unlike prior models, this model acknowledges that the socialization process is not linear and these four stages overlap and interact with one another throughout the graduate and professional student's life cycle. Weidman, Twale, and Stein (2001) acknowledge that this is an iterative process that often requires reconciling prior self-narratives with the developing self-narrative in the chosen community of practice.

In addition to the four stages, Weidman, Twale and Stein identify various dimensions that interact with the student's core socialization domain, the university. The student's socialization is focused within the chosen community of practice, led mostly by faculty, whom Weidman, Twale and Stein call "the primary agents of socialization," (2001, p. 13). These other domains, prospective students, professional communities, personal communities, and novice professionals, are all external influences that impact a student's socialization as a whole and the core socialization domain – the university. For example, a graduate student who has personal obligations, like a partner and dependents, may have limited time outside of program requirements to devote to extracurricular activities. This could impact the student's informal stage by limiting understanding of the department's culture. Each domain has processes and elements that contribute to the overall socialization. Figure 2 shows the domains as overlapping ovals to emphasize that the socialization process is interactive and not linear, as previous scholars have proposed. Although the domains interact, the *Framework* places the university domain at the center as this is where the critical elements of knowledge acquisition, investment, and involvement occur, and these are most important to the socialization process as they contribute the most towards developing the professional or scholarly identity.



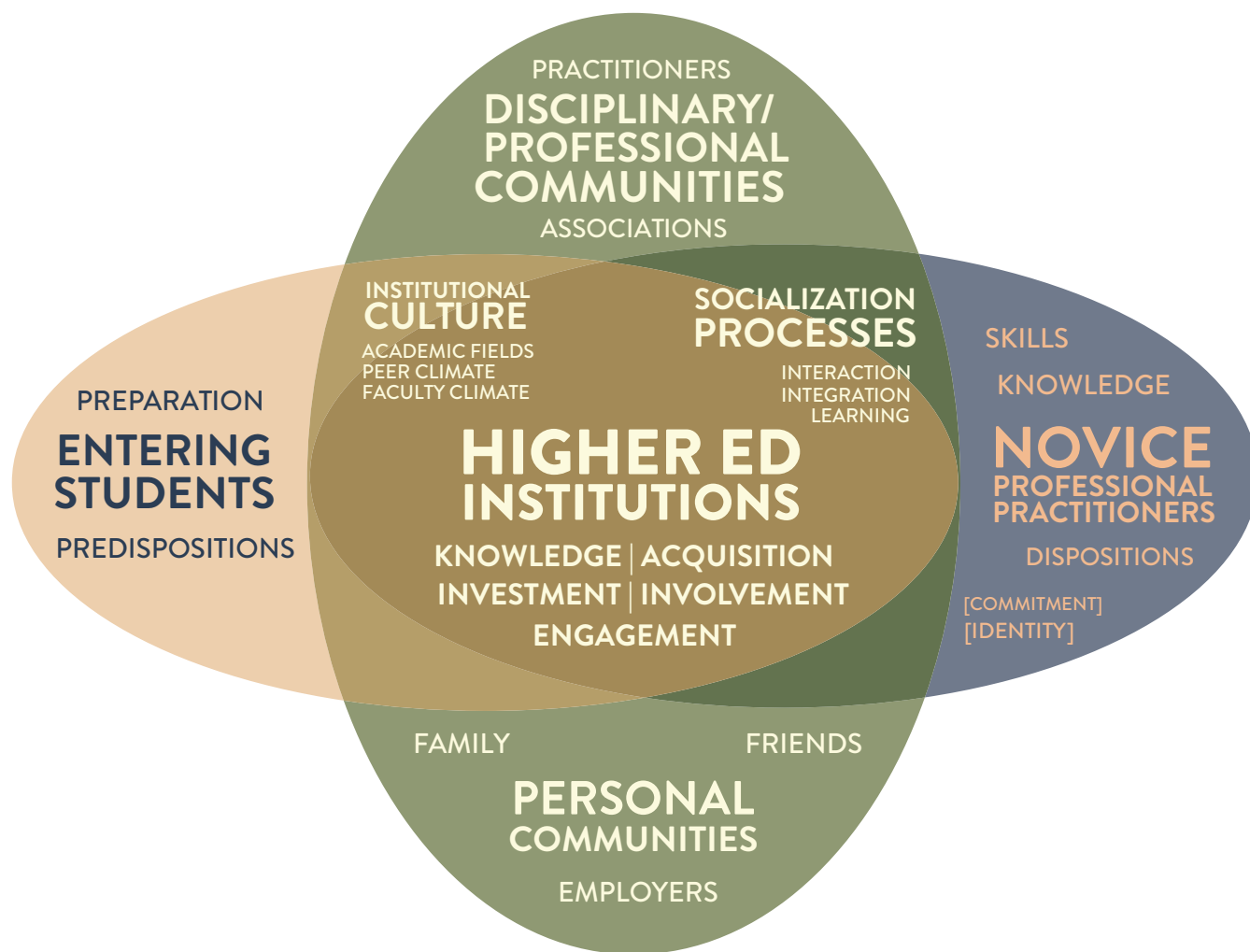
INTERACTIVE STAGES OF SOCIALIZATION: ANTICIPATORY | FORMAL | INFORMAL | PERSONAL

Figure 2. Weidman, Twale and Stein's Interactive Framework for the Socialization of Graduate and Professional Students (2001)

Developing an identity and commitment to the community of practice requires transformation and reconciliation of other identities. Weidman, Twale, and Stein use the term “fuse” to describe the reconciliation process of the various identities during the socialization process. A revised *Interactive Framework for the Socialization of Graduate and Professional Students* was introduced in 2016 to account for marginalized students' socialization experiences. Figure 3 shows Weidman, Twale and Bethea's (2016) updated *Framework*. Utilizing theories from human capital management and Bourdieu's social learning theory, the new model also parses out the four socialization stages into inputs, environment, and outcomes as they pertain to the academic resources available to students. This recognizes that at each stage, based on one's background and prior experiences, resources will vary. For example, not every graduate and professional student will enter their program with the same level of cultural or social capital or even the same educational background. The 2016 model had certain marginalized identities in mind, specifically African American female graduate and professional students; however, this model could be applied to neurodivergent graduate and professional students to explore where there may be certain challenges and barriers to socialization.

As an added layer to the revised *Framework*, we want to weave in the social model of disability because it acknowledges the latest research in disability studies and provides a well-rounded examination of the university's role in students' socialization. While it is the medical approach that many colleges and universities use when establishing processes and procedures for disabled students, the shift towards a DEI

perspective in disability studies encourages incorporating elements like the social model of disability, not previously included in socialization models because they create or alter the environment to promote success. The social model theorists focus on the social environment and some go so far as to say that disability itself is socially constructed and defined by the external barriers, not the impairments themselves (Lee, 2011). We, therefore, consider how the *Framework* could incorporate the social model of disability to improve the socialization of neurodivergent graduate and professional students.



ACADEMIC RESOURCES:	INPUTS (I)	ENVIRONMENT(E)	OUTCOMES (O)
INTERACTIVE STAGES:	ANTICIPATORY	FORMAL, INFORMAL	PERSONAL

Figure 3. Reconceptualization of the Interactive Framework for the Socialization of Graduate and Professional Students (2016)

Consistent with the revised *Framework*, and the addition of the social model of disability, we also explore the climate that SGS faculty members cultivate for their respective communities of practice and how this impacts the neurodivergent graduate and professional students' socialization. For the purposes of this project, the faculty climate is defined as the faculty members' beliefs about neurodivergent students and their willingness to accommodate them in their community of practice. Faculty climate is a key element of the institutional culture at the center of the *Framework*. It is also the one element that the institution can control and improve if needed.



RESEARCH QUESTIONS

Based on the *BSU Summary Report's* findings related to disabled graduate and professional students' experiences, we begin with the premise that the climate around disabled graduate and professional students has an impact on a student's academic and professional experience at BSU. The *Framework* maintains that faculty play a critical role in fostering, navigating, and transforming the climate in their communities of practice. Understanding the factors that constrain or afford faculty the ability to accommodate and promote positive beliefs about neurodivergent students is key to successful socialization in the community of practice. The following research questions, therefore, look to explore factors that contribute to the climate, including faculty members' existing knowledge and training around the university's accommodations process, structures and systems at the university level that impact or influence faculty in various ways, beliefs about neurodivergent students, and the willingness and extent to which faculty will accommodate neurodivergent students within their community of practice so as to create a truly inclusive climate.

1. What is the SGS faculty's understanding of BSU's accommodations process, and how does this understanding impact the socialization of graduate and professional students?
2. How do BSU internal structures and values impact the perceived socialization of graduate and professional students?
3. Given that faculty are primary agents of socialization, what are the factors that contribute to SGS faculty members' cultivation of climate for neurodivergent students within their community of practice?
4. What are the factors that contribute to faculty members' willingness to accommodate neurodivergent graduate and professional students within their community of practice?



METHODOLOGY

Our project used a mixed-methods approach in an attempt to triangulate SGS's own findings offered in the *BSU Summary Report* from a faculty perspective and to gain a wider perspective of the climate and factors contributing to the climate at SGS. We began with a secondary review of the *BSU Summary Report* which includes data, findings and recommendations from the *SGS Needs Assessment* and disabled graduate and professional student focus groups. Based on what we learned from this review of the disabled graduate and professional student experience, we created a *Faculty Climate Survey* designed to assess faculty beliefs about, reactions to, and willingness to accommodate neurodivergent students. The *Faculty Climate Survey* was followed by faculty focus groups designed to gain a deeper understanding of participating faculty members' understanding of neurodivergent students as well as institutional systems and structures that influence faculty members.

DATA COLLECTION

SECONDARY REVIEW OF BSU SUMMARY REPORT

SGS provided us with a copy of the *BSU Summary Report* for our review. In the fall 2019 term, SGS, in partnership with a third-party campus research group, launched a needs-based survey to all graduate and professional students within the school to “understand the experiences of graduate students with disability accommodations in graduate and professional programs” (*BSU Summary Report*, 2020). The BSU Committee on Graduate Student Experiences with Disability Accommodations followed the survey with a second internal qualitative study consisting of semi-structured focus groups in the spring 2020 semester. Both the *Needs Assessment* and the student focus groups looked to understand the current state of affairs about academic inclusion of graduate and professional students with disabilities. We relied on the *BSU Summary Report* report which contained only aggregated data due to data ownership policies at BSU which restricted our access to the survey and focus group raw data.

The *BSU Summary Report* (2020) indicates that the *Needs Assessment* survey was distributed via BSU email to all 9,237 SGS students enrolled for the fall 2019 semester, of which 1,070 students (12%) responded. The respondents also indicated their disability status² with 349 students indicating they have a disability, 147 indicating that they do not have an identified disability but would benefit from accommodations, and 574 indicating that they did not have a disability or need/benefit from

² While the *Needs Assessment* does ask students whether or not they identify as disabled, the survey does not drill down to ask students to specify their disability if they responded “Yes.” Since we were not able to identify specifically the full socialization experience of neurodivergent students, the secondary analysis focused on the general socialization of disabled graduate and professional students.

accommodations. Twenty students participated in the student focus groups. The research team developed a semi-structured interview protocol to elicit the experience of participants related to the process of requesting, receiving as well as implementing and using accommodations at BSU (BSU Summary Report, 2020).

The *BSU Summary Report* outlined the following findings from the *Needs Assessment* and student focus groups. First, the current accommodations structure, which includes multiple offices with different processes and procedures, creates an opaque experience for students when seeking formal academic accommodations. Departmental cultures and student experience also vary, therefore, graduate and professional students report inconsistent support and information about disability and academic resources. The confusion and lack of, or inconsistent, support contributes to a less than ideal climate for graduate and professional students, and the findings show that the overall climate for disabled graduate students does not seem inclusive enough to promote a sense of belonging. Throughout the student focus groups, students commented about their experiences with faculty, staff and other students regarding their disability,

“It’s embarrassing to have to volunteer information about yourself when such accommodations aren’t outwardly offered. It makes it feel like you are asking for favors that other students don’t get so you should suck it up and deal with it like everyone has to with their ‘personal issues,’” and, “that is not to say all faculty are bad or unsupportive, just that some seem to work under the idea that ‘grad school should be hard,’” (BSU Summary Report, 2020, p. 6).

Based on the findings specific to accommodations and the reasons students stated for not seeking them as well as our desire to learn the faculty perspective on BSU’s climate, we created a survey that would assess faculty knowledge of and attitudes towards neurodivergent students and their willingness to accommodate neurodivergent students.

FACULTY CLIMATE SURVEY

Like SGS’s research design, we began our faculty data collection with a survey. We modified the Baker, Boland and Nowik (2012) *Campus Survey of Faculty and Student Perceptions of Persons with Disabilities* to create our *Faculty Climate Survey* (FCS). Because the original instrument focused on all disabilities, we removed questions specific to physical disabilities. Additionally, since the original instrument was focused on undergraduate students and their accommodations, additional questions about graduate-level accommodations were added³ such as:

- “I am willing to arrange extended time on milestone or preliminary exams for verified neurodivergent students.”

³ As educators and researchers who do not identify as neurodivergent, we acknowledge and understand that our lived experiences and bias could impact the questions chosen to be used in the *Faculty Climate Survey* and corresponding faculty focus groups, as well as our assessment of the data contained within those instruments. To help reduce bias and prejudice in our research process, and to assess the content validity of our adapted and designed assessment instrument, and focus groups, we conducted over twenty interviews with professional in disability studies, disability resources, BSU faculty and staff, as well as individuals who participated in graduate education who identify as neurodivergent. We also asked additional professionals in these same affinity groups to review our *Faculty Climate Survey* for content validity.

- “I am willing to provide verified neurodivergent students with a tour of facilities prior to the start of a laboratory or field work assignment.”
- “I am willing to provide verified neurodivergent students with additional time to complete laboratory, field work or other assignments.”

The original study did not evaluate possible predictors of beliefs, reactions, or willingness to accommodate, but we could not identify possible root causes of the students’ perceived climate problems without exploring possible predictors of faculty members’ negative beliefs, reactions, and willingness to accommodate. Several researchers (Lombardi, Murray & Gerdes, 2011; McCarron, 2017; Skinner, 2007) found that faculty exposure to neurodiversity and universal design correlates with faculty members’ attitudes towards and willingness to accommodate neurodivergent students. Therefore, based on the literature review, we added questions about faculty exposure to neurodivergent individuals and universal design.

The *FCS* consisted of 61 questions total across 9 sections: Tell us About Yourself, Exposure to Neurodiversity, Overall Climate, Knowledge and History of Neurodiversity, Familiarity with Universal Design, Inclusion in the Classroom, Beliefs about Neurodivergent Students, Reactions to Neurodivergent Students, and Academic Accommodations. Example questions from each section were:

Tell us About Yourself

“Are you scheduled to teach at least one graduate level course, or provide research or clinical support to graduate students during this academic year, either Fall 2021 or Spring 2022?” (Yes/No)

Exposure to Neurodiversity

“Do you have any close contacts who identify as neurodivergent (example: partner, relative, or friend)?” (Yes/No)

Overall Climate

“In your opinion, what is the overall climate at BSU for neurodivergent graduate and professional students? (Likert scale from Very Unfavorable to Very Favorable)

Knowledge and History of Neurodiversity

“Prior to this survey, I was familiar with the term “neurodiversity” and what it means.” (Likert scale from Strongly Disagree to Strongly Agree)

Familiarity with Universal Design

“Please indicate your familiarity with the following concepts: Universal Design” (Likert scale from Extremely Unfamiliar to Extremely Familiar)

Inclusion in the Classroom

“As far as I know, neurodivergent students are satisfied with their classroom experience.” (Likert scale from Strongly Disagree to Strongly Agree)

Beliefs about Neurodivergent Students

“Neurodivergent students are just as capable of competing academically at the graduate and professional level as other students.” (Likert Scale from Strongly Disagree to Strongly Agree)

Reactions to Neurodivergent Students, and Academic Accommodations

“Other students resent the formal academic accommodations neurodivergent students receive.” (Likert scale from Strongly Disagree to Strongly Agree)

Academic Accommodations

“I am willing to reduce the overall course reading load for a verified neurodivergent student.” (Likert scale from Strongly Disagree to Strongly Agree)

See Appendix A for the complete list of survey questions. The *FCS* launched in the fall 2021 semester via email and remained open for 16 days given BSU’s academic calendar. Baker, Boland and Nowik (2012) found that faculty and student perceptions of climate were misaligned with the majority of faculty respondents perceiving the overall climate to be positive compared to just 30% of student respondents sharing their perceptions. Based on SGS’s student data, we expected to see similar results from our faculty survey; additionally, we hoped to take Baker, Boland and Nowik’s findings related to faculty members’ perceptions on the climate a step further by incorporating predictive modeling into our analysis and test whether certain factors might predict a more positive attitude towards neurodivergent students or a greater willingness to provide accommodations. In tailoring our own *Faculty Climate Survey*, we aimed to go beyond knowing what the perceptions are and start to identify variables that impact those perceptions. Our design incorporated qualitative data to further support and deepen the survey data.

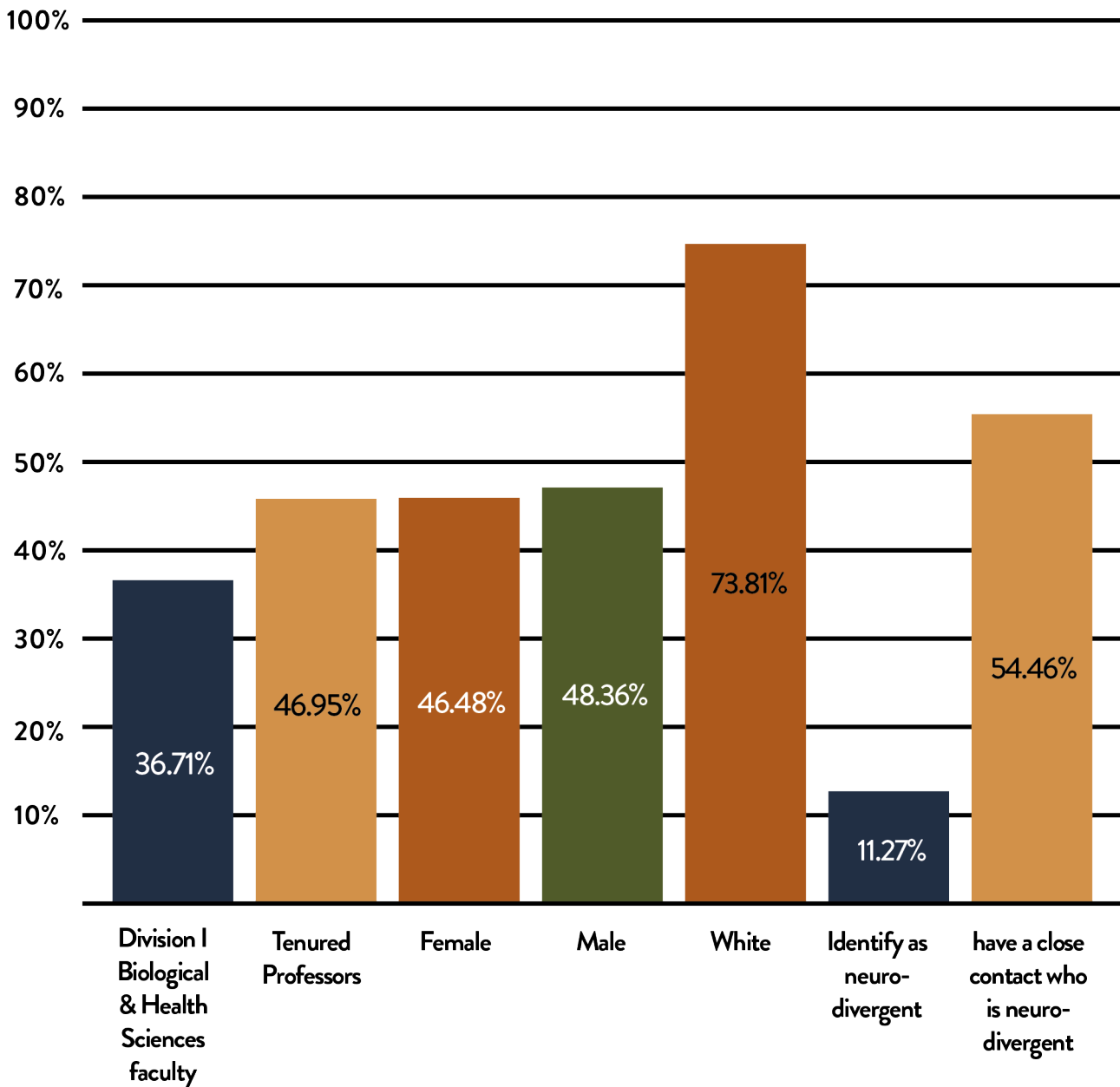
SGS’s Director of Institutional Research provided the list of participants. We requested a list of all faculty members scheduled to teach at least one graduate or professional course in the fall 2021 semester, excluding any graduate and professional and professional student instructors since they fulfill dual roles of student and instructor. We initially contacted all eligible participants by email with an invitation to complete the survey via Qualtrics and an overview of the study as approved by Vanderbilt’s Institutional Review Board. We collected informed consent at the onset of the survey. See Appendix B for the recruitment emails. The initial list of participants contained 6399 faculty members; however, after we sent the first invitation to complete the survey, we removed 269 faculty members due to departure from the university or extended leave as relayed through an automatic out of office reply. SGS associate deans encouraged eligible participants to complete the survey after one week and we sent a reminder email to all eligible participants after 10 days.

We closed the survey after two weeks. We removed 83 respondents from the final participant list because they indicated that they were only scheduled to teach undergraduate courses and therefore were ineligible to participate. We eliminated an additional 41 respondents who did not respond to any questions after the informed consent. A total of 6006 participants comprised the total sample. However, given the large number of out of office responses from faculty no longer at the university, this final number may be inflated and inclusive of even more former faculty members who did not have out of office replies but were no longer affiliated with SGS or were on extended leave due to the pandemic. A total of 241 (4.01%) participants completed the survey⁴. The low response rate is a limitation of this project and means that we really only heard from a small portion of the total SGS faculty and cannot draw broad conclusions based on this data.

4 A week after the *FCS* launched, the University launched a campus wide Diversity, Equity and Inclusion Climate Survey. The launch of this survey came as a surprise to our SGS partners, and caused confusion with faculty in which survey they were supposed to participate.

The participants' mean years of teaching was 13.9 years (SD = 6.6); 48.1% were female; 71.7% were White Non-Hispanic, Asian 6.3%, Black Non-Hispanic 5.1%, Other 16.9%; 86.6% were tenure with rank of Assistant Professor or higher; 10.8% identify as neurodivergent; and 53.9% indicated that they had at least one close contact who is neurodivergent. Of the N = 241 study participants who enrolled in the study, n = 213 (91%; see Table 1 for key summary descriptive statistics of full sample) responded to the neurodiversity section of the survey containing questions about beliefs about, reactions to, and willingness to accommodate neurodivergent students. Nonresponse to items was not associated with any demographic characteristics. See Appendix C for data results and analysis.

Table 1. Summary of Descriptive Statistics for Faculty Climate Survey



FACULTY FOCUS GROUPS

Similar to SGS's design, our qualitative data comes from three, 60-minute focus groups with 15 faculty in the spring 2022 semester. Since we received a low response rate to the *Faculty Climate Survey*, the faculty focus groups were a way to test statistically significant data we obtained and expand on what we learned from the faculty in the *Faculty Climate Survey*. Informed by the student data in the *BSU Summary Report*, conversations with SGS stakeholders, and the survey data we collected, our focus group conversations covered faculty experiences with neurodivergent individuals and the accommodations process at BSU. During each focus group, we described our research project and established a common vocabulary by sharing our operational definitions of neurodiversity, neurodivergent, and socialization. Knowing the faculty's perceptions of what may be inhibiting their engagement with neurodivergent students complements the quantitative findings to inform recommendations to BSU stakeholders. The focus group Interview Protocol and Questions can be found in Appendix D.

When completing the *FCS*, we asked faculty to indicate if they would like to participate in focus groups. Through this process, we once again called upon the associate deans to communicate with their divisions about the opportunity to participate in these important focus groups. As a result 15 faculty from all but one academic division participated in three focus groups in the spring 2022 semester with an average of five faculty participating per focus group. The engineering and physical sciences division was the only division not represented. We hosted all three focus groups through Zoom using Otter.ai transcription to accurately capture each participant's responses.

DATA ANALYSIS

FACULTY CLIMATE SURVEY

Using Baker, Boland, and Nowik's (2012) study to assess faculty beliefs about students with disabilities, we created 36 items (16 related to beliefs about neurodivergent students; 6 related to reactions to neurodivergent students; 14 related to willingness to accommodate neurodivergent students) to reflect faculty members' beliefs about, reactions to, and willingness to accommodate neurodivergent students with responses reported on a five-point rating scale ranging from 1 = "strongly disagree" to 5 = "strongly agree". A preliminary analysis of the beliefs, reactions, and accommodations scores using an analysis of variance in RStudio revealed minimal relationships between dependent and independent variables with a range of 3% to 12% of the variance in beliefs, reactions, and accommodations scores accounted for by the independent variables. We recruited a research assistant with expertise in statistical analysis and access to STATA and SPSS so we could simplify our data into more manageable and meaningful data for better analysis.

To summarize overall attitudes, we conducted an exploratory factor analysis (EFA; promax rotation). We used a combination of methods to determine which items on each scale should be retained for analysis (Fabrigar, Wegener, MacCallum, & Strahan, 1999), including examination of the scree plot of eigenvalues from the reduced correlation matrix and interpretability of factors. An iterative approach was used until we reached a combination of factors on each scale that met the following criteria: (a) items loaded ($> .30$) on one factor; (b) items loaded at approximately near zero on other factors; (c) each factor had three or more strong loadings; and (d) items that loaded highly on several factors or did not make theoretical sense were removed (Pett et al., 2003). This analysis resulted in a 16-item, four-factor solution, which accounted for 64.7% of the total variance (α 's = .71 - .93). The 16 items (reduced from 36) represented the beliefs and accommodations scales as the items on the

reactions scale did not meet the above criteria. We labeled the four factors as follows: Beliefs about Student Capabilities (b1), Beliefs about Student Accommodation Use (b2), Willingness to Devote Resources (a1), Willingness to be Flexible (a2). Beliefs about Student Capabilities (b1) refers to faculty members' beliefs about how capable neurodivergent graduate and professional students are compared to their peers. Beliefs about Student Accommodation Use (b2) refers to faculty members' beliefs about how neurodivergent students use their accommodations, whether they do so in a timely and responsible manner. We reverse coded items within b2 to weigh more negative beliefs less than more positive beliefs. Higher scores in b1 and b2 reflect more positive beliefs about neurodivergent graduate and professional students. Willingness to Devote Resources (a1) refers to faculty members' willingness to devote extra time or resources, like lecture notes and recordings to neurodivergent students. Willingness to be Flexible (a2) refers to faculty members' willingness to allow accommodations beyond the common extra or extended time on exams and assignments.

Using these four factors and the independent variables measuring familiarity with and training on universal design, we calculated the Pearson correlation coefficient. The correlation coefficients were not strong, but some of the p-values were significant. Notably, the correlation between familiarity with universal design and all four of the factors had p-values ranging from $p = .0001$ to $p = .0174$. Additionally, training in universal design and factors b2 and a1 also had significant p-values ($p = .0054$ and $p = .0269$, respectively). See Appendix C for the full data analysis.

We derived regression-based factor scores from this analysis with a mean of 0 (SD = 1) where higher scores reflect more positive beliefs about neurodivergent students and a higher willingness to accommodate neurodivergent students. We modeled the relationship between the four factors and various independent variables using a multiple regression analysis. Most of the independent variables could not predict the factors, except familiarity with and training in universal design and having a close contact who identifies as neurodivergent. Table 2 shows a summary of key independent variables we explored and whether they predict any of the factors. See Appendix C for the full models.

11% identify as Neurodivergent	Not Significant
54% have at least one close contact who is neurodivergent	Predicts willingness to devote resources and willingness to be flexible
54% are generally familiar with Universal Design	Predicts beliefs about student capabilities & how students use accommodations
31% received training at least once in Universal Design	Predicts beliefs about student accommodations use

Table 2. Summary of Key Independent Variables as Predictors of Factors

FACULTY FOCUS GROUPS

Following the focus groups, we mirrored BSU's use of Bruan and Clark's (2012) six phases of thematic analysis to better understand the university structures that inhibit faculty's understanding of the neurodivergent student experience at BSU and their willingness to accommodate them. Braun and Clark (2012) define thematic coding as, "systematically identifying, organizing and offering insight into patterns of meaning (themes) across a dataset," (p. 57). In phase one of our content review, we referenced Weidman, Twale and Stein's (2001) *Framework* and the major findings of the *Faculty Climate Survey*. It is through this lens that we reviewed the transcribed notes from each of the three, Zoom faculty focus groups. Through a deductive process, we began individually generating initial codes in phase two based on the initial patterns identified following the focus groups and a more thorough review of the transcribed focus group notes. In phase three we compared our individual codes and began collapsing the codes that seemed to share unifying features and reflect a coherent and meaningful pattern in the data (Braun & Clark, 2012). In phase four, we began to group the identified codes into major themes which Bruan and Clark (2012) recommend are: (1) singular in nature; (2) are related but do not overlap (3) and directly relate to our research questions. Following the initial thematic analysis process, in phase five we put the initial themes and codes through the filter of the Inputs, Environment and Outcomes (I-E-O) section of the *Framework* and created a comprehensive codebook using both the conceptual model and thematic analysis. (See Appendix E for Codebook).

After developing our three themes, codes and subcodes, in phase six of Bruan and Clark's (2012) thematic process, we recoded all three focus group transcripts and pulled sample quotes that represented the subcodes. In the end, we found that the I-E-O section of the *Framework* fit best as the three major themes for the focus groups. We defined "inputs" as self-narratives and experiences prior to graduate education, which comes from the *Framework's* anticipatory stage where inputs are primarily located. We chose "exposure" and "training" as our codes based on the *Faculty Climate Survey* analysis and the literature on faculty experience with neurodivergence. Subcodes included specific circumstances like whether a faculty member identified as neurodivergent or had a close contact who was neurodivergent, and whether faculty had awareness of or access to training related to neurodivergent students and universal design.

According to the I-E-O section of the *Framework*, the environment reflects the informal and formal stages of the socialization process, which is centered on the university and depends on the institutional culture and processes. Therefore, we defined "environment" as the culture of the environments where learning takes place. Based on the literature related to DEI in higher education and faculty experience with neurodivergence, and the SGS student data, our codes for this theme were climate (university, department, or field of study), DEI, social model of disability, and systems and structures. Subcodes for climate included elements that could influence climate, as noted in the SGS student data and the literature. These ranged from things like values and priorities to resistance to change.

DEI subcodes, similarly, included topics like community and bias. The social model of disability included topics like flexibility and rethinking both space and learning. Because the literature related to faculty experience with neurodivergence mentioned processes related to accommodation and willingness to accommodate, subcodes for systems and structures included accommodations, communication and accountability so we could better understand the structural issues related to students not seeking accommodations.

Outcomes, the third element of the Frameworks I-E-O reflects the personal stage, which is where the student develops both a commitment to their field and their identity as a scholar or professional in the field. Therefore, we defined "outcomes" as times when the student is committed to the profession and affirms their identity in the field. Taken directly from the *Framework*, our codes were interaction, integration, and learning, which are the key elements to successful socialization. Using terms from our literature, primarily related to socialization, our subcodes were participation, community of practice, affiliation with the field, completing degree, desire to learn and barrier to learn. Figure 4 is a visual representation of the thematic coding model we used.



Figure 4. Inputs, Environment, and Outcomes Thematic Coding Model

While our themes, codes, and subcodes captured most of our data, there was one topic that came up in multiple focus groups that did not fit in our coding scheme. “Mental health” was mentioned in each discussion and was a prominent thread in the third focus group. At first, this seemed related to faculty members’ lack of knowledge or awareness of neurodiversity; however, it overlapped at times with neurodivergence, suggesting that faculty participants observe neurodivergent students who also suffer from mental health issues. Gonzalez, Kim, and Flaster (2021) examined how pre-socialization experiences, identity development and socialization through the discipline, and recognition by meaningful others such as faculty impact doctoral students’ well-being, motivation, and academic identity as they transition into their doctorate programs. They found that, “in an educational environment where there is ample variation in the day-to-day experiences of graduate and professional students according to their advisors, coursework, assistantships, and topics of study, it is dismaying that the common experience of doctoral study is one of waning health and lowered identification with their disciplines,” (Gonzalez, Kim & Flaster, 2021, p. 36), especially in the first three years of the program. This finding indicates that stress created around students’ social and professional identity and group membership are primary drivers of students’ well-being and identity development. It is striking that researchers and faculty are finding the overlap between mental health and socialization; however, the generalizability of this or the overlap with neurodiversity is worth studying further. While mental health did not feature prominently in our literature review or explicitly in the SGS student data, it does not seem far removed from either. The shame and fear of stigma expressed by SGS students could relate to mental health issues like anxiety or depression. Likewise, DEI literature focusing on belonging could relate to mental health issues when a sense of belonging is not present.

After we coded all three transcripts according to our schema, we pulled sample quotes that we felt most represented the subcodes. From there, we summarized the sentiments expressed in the chosen quotes and generally across the focus group conversations, recognizing that many subcodes had multiple quotes and some were nuanced or had contradictory comments. For example, there were contradictory quotes related to both individual departments and broader fields of study related to the subcode “resistance to change”. To summarize the comments, we noted that faculty members observed that younger faculty, newer to teaching, are more flexible; however, faculty also noted that certain disciplines are set in their ways and their thinking about what it means to be a professional in their field, and until SGS faculty challenge those assumptions, change will be difficult.



FINDINGS

We launched our specific research into the climate for neurodivergent graduate and professional students based on what we learned from the *BSU Summary Report (2020)*. Since the *BSU Summary Report (2020)* focused on student perceptions, we chose to explore and examine the perceptions around socialization of neurodivergent graduate and professional students through the lens of the faculty. Through the content analysis of both the *Needs Assessment* and disabled graduate and professional student focus groups provided by SGS in the *BSU Summary Report (2020)*, and the analysis of the *Faculty Climate Survey* and faculty focus groups, we came to following findings:

Research Question 1: What is the SGS faculty’s understanding of BSU’s Accommodations process, and how does this understanding impact the socialization of graduate and professional students?

Finding 1: SGS faculty participants have a limited understanding of the University’s accommodation process, which creates barriers to implementing academic and professional supports within graduate and professional students’ community of practice.

Related to this particular finding, the *Needs Assessment* and disabled graduate and professional student focus groups highlighted four different areas where the faculty’s lack of knowledge, education, as well as confusion about BSU’s academic accommodations process impacted their ability to implement the academic accommodations for each student as prescribed by SSD. Furthermore, disabled graduate and professional students noted in the focus groups that the faculty’s lack of understanding and knowledge about their disability impacted the faculty’s ability to help students navigate the formal academic accommodations process and, once received, implement students’ formal academic accommodations (BSU Summary Report, 2020).

One of the four areas identified in the *BSU Summary Report (2020)* is faculty and staff’s lack of knowledge about disabilities and the accommodations process. Disabled graduate and professional students specifically talked about their difficulty in obtaining academic accommodations as there was no clear information from SSD, their academic department nor their faculty on how to navigate the university’s formal academic accommodations process.

“I feel like a lot of professors just take for granted the fact that they’re never going to have a student who needs accommodations, and they get blindsided when it happens” (BSU Summary Report, 2020, p. 30).

This first area also highlights that once accommodations were successfully approved by SSD, it was often difficult or impossible for students to implement them (BSU Summary Report, 2020).

“The staff—it seemed like they had never encountered a graduate student with a disability requesting an accommodation before. When I handed them the SSD form,... they were just very confused for a minute and didn’t really know what they were looking at.... They were like, ‘You need all of these?’ It seems very much like they just did not expect to see disabled students, especially people with multiple disabilities” (BSU Summary Report, 2020, p. 30).

The disabled graduate student focus groups also highlighted a second area of concern. Graduate and professional students perceived that faculty were well intentioned in their efforts to accommodate students, however, faculty did not have the knowledge, tools or language to do so. Some students surmised in the disabled student focus groups that this lack of knowledge led faculty to try to equate disabled students’ experiences with more “ordinary” experiences, which students noted was both painful and missed the point (BSU Summary Report, 2020). One representative statement from a graduate student demonstrates this perceived view of faculty.

“What I think I want faculty to know is when I’m trying to tell them what my needs are...I’m not trying to get unfair accommodations, I’m not trying to be unfair to them or anybody else. ...I would like for them to treat me like I’m acting in good faith...I’ve already spent my life trying to prove to people that I have innate human value as it is and now I’m trying to prove myself to people all over again just to prove that I deserve to be here, that I worked hard to get here” (BSU Summary Report, 2020, p. 30).

A third area in the disabled graduate and professional student focus groups demonstrated students’ concerns about the faculty’s skepticism of their disability and that the faculty viewed their disability as a problem.

“A lot of professors...view accommodations as just giving an unfair advantage. I did witness a professor making comments when they were talking about a bunch of students in a large class requesting extended time for exams just being like, ‘And most of them probably don’t need it but we have to do it’” (BSU Summary Report, 2020, p. 34).

“I know someone in my lab that has ADHD as well. They told the adviser that they had that. The advisor was like, ‘Well, that’s diagnosed a lot in this country.’ He waved it off like it was kind of a hoax” (BSU Summary Report, 2020, p. 34).

Faculty’s lack of understanding of the BSU formal academic accommodations and what it means to be a disabled graduate and professional student also came through from student data in the *Needs Assessment*. Of the 379 graduate and professional students who indicated that they have a disability in the *Needs Assessment*, 272 (79.5%) felt they would benefit from having accommodations as a graduate and professional student, however 39% indicated they did not seek accommodations. Table 3 shows the breakdown of the number and percentage of disabled students who requested accommodation.

NUMBER OF STUDENTS	PERCENTAGE	STUDENTS WITH DISABILITY PERCENTAGE WHO REQUESTED ACCOMMODATIONS
36	13%	did not indicate why they did not seek accommodations
105	39%	did not attempt to seek accommodations
131	48%	did attempt to seek accommodations

Table 3. Number and Percentage of Disabled Students who Requested Accommodations.

Of the 105 graduate and professional students who noted they did not request an accommodation in the *Needs Assessment*, 12.4% responded that they did not seek accommodations related to fear of stigma. Table 4 shows the breakdown in student responses related to why they did not seek accommodations.

NUMBER OF STUDENTS	PERCENTAGE	STUDENTS WITH DISABILITY - REASON FOR NOT ARRANGING ACCOMMODATIONS
9	8.6%	did not seek accommodations as their disability did not affect them in their program
30	28.6%	did not seek accommodations as their BSU experience is accessible without accommodations
13	12.4%	did not seek accommodations related to fear of stigma

Table 4. Reasons why Disabled Students Did Not Seek Accommodations

In a representative comment from one student in the the open-ended section of the *Needs Assessment*, the student indicated that they did not want to disclose their disability to their professor, given how the professor responded to request for academic accommodations in the past:

“It did not seem like the professor for the course would be accommodating given their responses to other students needing similar accommodations. I decided it was better to deal with it and not disclose than to introduce that complication” (BSU Summary Report, 2020, p. 7).

In the open-ended section of the Needs Assessment, graduate and professional students also indicated that, “faculty, staff, and administrators lacked necessary understanding of different disabilities and their related needs (e.g., associated with attention issues, or stimulus overload, or the need for testing for some chronic conditions, and of medication side effects)” (BSU Summary Report, 2020, p. 19). This led to additional negative experiences and barriers to students seeking formal academic accommodations as stated by this student,

“For tenured professors in my department not to marginalize me for having a disability—especially talking about me behind my back and never acknowledging with me ways to accommodate me as a FIRST-YEAR WHO DIDN’T KNOW I COULD ACCESS RESOURCES” (BSU Summary Report, 2020, p. 21).

Building off of the third area in the disabled graduate and professional student focus groups around faculty’s lack of knowledge and expertise regarding the BSU’s formal accommodations process, we recognized a sub area that became apparent in the coding around disability culture and accommodations. The faculty’s behaviors and knowledge are affected by the BSU culture around disability and what it means to have academic accommodations (BSU Summary Report, 2020).

“It’s not like that’s anybody’s fault. I mean we are out of the ordinary and that’s just the way it is. I mean.... When [the faculty] hear I’m autistic and have ADHD and have clinical depression, I need an open channel of communication. I need you to listen to me and communicate with me and not treat me like I’m just making excuses. They just don’t do that” (BSU Summary Report, 2020, p. 31).

These findings from the *BSU Summary Report (2020)* seem very damning for the faculty, however, in the faculty focus groups we get a different and more complex picture of how the faculty experience the BSU accommodations process and are working to understand the experience of neurodivergent graduate and professional students. In the faculty focus groups, several faculty members talked about how they did not know what to do with accommodation letters after they received them, especially since the accommodations often don't translate to the graduate and professional student experience. It seems like most of the accommodations granted are designed for the undergraduate experience, leaving graduate faculty confused about how best to support their students. One faculty member commented,

“When we get memos about a student needing an accommodation, it doesn't, it doesn't really provide much information about it. It's often a form with something ticked off like please give them more time... Particularly during COVID It's been even hard to reach people in the office to try to get elaboration on how to accommodate people, particularly at the graduate level. The standard accommodations for undergraduates don't always apply, let's say when you're supervising a dissertation” (Faculty Focus Group, March 14, pp. 3-4).

This lack of awareness and inability to understand how to apply academic accommodations also causes frustration with faculty when working to better understand how best to support the learning needs of students, which impacts their ability to socialize neurodivergent students into their department and discipline.

“...it's not something we tend to discuss at our graduate student review. So other faculty may just think that the student isn't doing, ...performing in a certain way in their class, they have no context or background for how, what the student might be struggling with” (Faculty Focus Group, March 14, p. 10).

The BSU accommodations process seems to be a mystery for both faculty, and graduate and professional students alike. This mystery impacts faculty's ability to understand and implement accommodations, and leads graduate and professional students to feel lost and unwelcome in their academic department and the university. Both faculty and students want and need communication about the process and the ability to speak with a professional whose expertise in how to implement accommodations.

Research Question 2: How do BSU internal structures and values impact the perceived socialization of graduate and professional students?

Finding 2a: The centralized structure of support services at SSD impedes faculty understanding and ability to accommodate neurodivergent students due to a high volume of needs and limited resources.

At BSU the higher education structures that impact the socialization of graduate and professional students according to the *Framework* (Weidman, Twale & Stein, 2001) are interwoven, and, as Golde (2005) discusses, live at both the macro level (university, academic discipline, SSD) and micro level (academic department). From a disabled graduate and professional student perspective in the *Needs Assessment*, “information about both what disabilities qualify for accommodations and how to request accommodations is not broadly available to graduate students at all levels” (BSU Summary Report, 2020, p. 24). When asking students who identified with a disability how true it was that arranging accommodations at BSU is easy, of the 266 graduate and professional students who answered this question, the vast majority indicated this was not true Table 5 shows the breakdown in responses from disabled students regarding the ease of the accommodations process.

NUMBER OF STUDENTS	PERCENTAGE	STUDENTS WITH DISABILITY - ARRANGING ACCOMMODATIONS IS EASY
28	10.5%	Very True
46	17%	Somewhat True
193	72.5%	Not True

Table 5. Disabled Students' Responses Regarding the Ease of the Accommodations Process

One student specifically noted in the open-ended section of the *Needs Assessment*:

“As a GSI, I needed a lot more structure for ‘HOW TO’ ...I wish I had known the range of different approaches to receiving a request for a letter of recommendation, or to meet for coffee or push back on a policy. I think I could have benefited from practicing the literal verbiage we could use in those situations....” (BSU Summary Report, 2020, p. 22).

In examining the accommodations process further, students were asked how easy or hard it was to implement the accommodations they needed. Among the 266 students who answered, again, the vast majority indicated this was not true. Table 6 shows the breakdown in responses from disabled students regarding the ease of implementing accommodations.

NUMBER OF STUDENTS	PERCENTAGE	STUDENTS WITH DISABILITY - IMPLEMENTING ACCOMMODATIONS IS EASY
47	18%	Very True
32	12%	Somewhat True
187	40%	Not True

Table 6. Disabled Students' Responses Regarding the Ease of Implementing Accommodations

The BSU researchers also asked graduate and professional students to indicate how clear information about how to apply for accommodations was in their departments. Of the 249 students who answered, 65% said that information regarding accommodations was “completely unclear.” Table 7 shows the breakdown in disabled students' responses regarding the clarity of the accommodations process.

NUMBER OF STUDENTS	PERCENTAGE	STUDENTS WITH DISABILITY - INFORMATION ABOUT APPLYING FOR ACCOMODATIONS IS CLEAR
51	20.5%	Completely Clear
37	14.5%	Somewhat Clear
161	65%	Completely Unclear

Table 7. Disabled Students' Responses Regarding the Clarity of the Accommodations Process

As one of the four areas of concern in the disabled graduate and professional student focus groups, some students gave examples of barriers to accessing accommodations and the needed academic supports in their learning environments. The academic supports that graduate and professional students mentioned were: specific services such as ASL interpreters, funding to support diagnosis and treatment learning, and staff with experience in neurodiversity and autism spectrum disorder (BSU Summary Report, 2020). The disabled graduate and professional student focus groups also provided additional context and understanding regarding students' experiences in obtaining needed accommodations. Students overall reported considerable difficulty in understanding the start of the accommodations due to their great uncertainty about how to specifically request accommodations. In describing this uncertainty and lack of clarity, one student noted:

“As a first-year graduate student coming in, it's not really clear about the policies and what is available....It was nothing outlined in terms of any of the presentations either provided by [SGS] or even by my own department” (BSU Summary Report, 2020, p.37).

Beyond understanding how to start the accommodations process, graduate and professional students also noted confusion and lack of awareness about disability resources on campus and how to operationalize their academic accommodations:

“I feel like the university has a lot of resources....but a lot of students don't know about it and even students registered with SSD don't necessarily know that they have access to it. Just things like the university provides some assistive technologies for free to all students, but again...I have to ask around to figure out the right person to ask” (BSU Summary Report, 2020, p. 37).

Graduate and professional students also gave examples of conflicting information given to them by SSD, their academic departments, and SGS regarding how to obtain and put their accommodations into place. Students noted a lack of accountability from who would help them make decisions about their accommodations and how to actualize them in ways that provide the best support:

“When trying to request those accommodations I was on an email chain with my advisor and some one from SSD, my coordinator from SSD, the rec and resolution officer from [SGS], and my department chairs, and it's just like it was a months-long email exchange with everyone trying to basically shuffle me off to someone else and say that it's not their job to determine those accommodations” (BSU Summary Report, 2020, p. 33).

In the end, this lack of accountability and confusion amongst faculty, academic departments and SSD in how best to implement academic accommodations at the graduate level, led students to socially and physically withdraw from their academic programs.

“I’ve met plenty of people, unfortunately, along the way who have left...that have left solely because they can’t get accommodations or they have different administrative issues that are pushing back against their needs. It ends up being a situation that a lot of people can’t stay in” (BSU Summary Report, 2020, p. 33).

The faculty focus groups also reflect confusion on who should be accountable in implementing the prescribed academic accommodations from SSD stemming from the multiple stakeholders involved plus the lack of communication and coordination among them.

“...it’s been difficult to get these offices [SSD and ADA Coordinator] to agree on how do we roll out accommodations and kind of be an accountability partner with our mentors and our educators, right, to make sure that they are giving those accommodations when there’s not a diagnosis and some form that can be sent from these offices to the faculty.” (Faculty Focus Group, March 11, p. 7-8)

“It’s a bit of a mystery... I can’t even tell you where that office is located on campus...I began my efforts last year -when I had questions- to call, we just got voicemail because everyone was working from home. So calls were not returned, so it felt like a very disembodied process.” (Faculty Focus Group, March 14, p. 4-5)

Across all faculty focus groups, most faculty discussed the lack of training available to them about the accommodations process, which echoes the statements made by students in both the *Needs Assessment* and disabled graduate and professional student focus groups. The faculty noted that they feel the SSD accommodation letters are just check boxes to meet compliance standards. There is not enough substance behind the accommodation letters and interactions with SSD for faculty to make meaningful decisions about how to implement accommodations. When talking about the accommodations process and neurodivergent students, one faculty commented,

“But when I think about it, this perhaps is a little surprising that given the extent of the problem.... in the last few years, and I guess one could hope....training for the information that the faculty between the administration and the teaching body so that perhaps we can go beyond simply administering those accommodations and maybe take a more holistic approach” (Faculty Focus Group, March 10, p. 17).

Furthermore, most faculty noted that in addition to not having education around the BSU accommodations process, teaching support at SGS is inconsistent and even nonexistent regarding how to put reasonable accommodations into place. Pedagogical support for how to put academic accommodations into place for neurodivergent students was also lacking. One faculty member stated,

“I don’t think there’s been a larger conversation about teaching and universal design and delivery of our content” (Faculty Focus Group, March 10, p. 10).

In addition, throughout the faculty focus groups, most faculty noted that due to a lack of training around the academic accommodations process, they were not sure if flexibility could be employed in how accommodations are put into place. Most faculty also noted that even though they wanted to be flexible

in their implementation of accommodations, they were confused on how best to do this while being compliant with ADA:

“But I do sense that faculty find it burdensome to manage accommodations even though it’s managed centrally. I have to get this extra test and I have to do it this way, and I have to do it that way.... (Faculty Focus Group, March 10, p. 10)

A few faculty did note though that they found teaching support in their department or division incredibly helpful in supporting neurodivergent students in the classroom:

“At [BSU] we have a wonderful unit called the CRLT...with the great work they have done on other issues, like on race in the classroom.....they could be more of a think tank of some kind to how to address this problem on a more systematic level” (Faculty Focus Group, March 10, p. 12).

“Our School of Public Health has a fantastic teaching support team, led by several folks with expertise in curriculum and teaching design and we have offered and attended some of the workshops and different seminars of which one of the topics covered was universal design” (Faculty Focus Group, March 11, p. 5).

As a result of not having the accommodations training and teaching support needed to academically support neurodivergent students, most of the faculty felt that they were not able to advocate for their students in receiving or implementing the students’ academic accommodations in ways that were effective for the student. In addition, most of the faculty saw that their graduate and professional students did not have agency in being a part of determining what reasonable accommodations could be put into place to support their learning experiences.

“And one of the problems that I see is that when a student, you know, brings an accommodation letter... I think that’s a really delicate issue because not all students are going to want the information to be announced, you know, in a meeting where they’re not present and maybe discussed in a way that they don’t have any control over” (Faculty, Focus Group, March 14, p. 10).

When considering how faculty understand, navigate and support neurodivergent graduate and professional students through the accommodations process and in their students’ learning needs, the faculty focus groups pointed out that the SSD centralized structure is seen as a barrier to providing this support. Disabled graduate and professional students also noted in the *BSU Summary Report (2020)* that these barriers not only impacted their ability to obtain accommodations, but find ways to effectively implement them with faculty as well. As a result, disabled graduate and professional students are leaving their graduate program. To overcome these barriers, both faculty and students indicated that learning about what it means to be neurodivergent, how to implement approaches to universal design for learning, and providing opportunities for students to have agency and control in the accommodations process is needed.

Finding 2b: SGS faculty participants experienced competing priorities of research, teaching and service which impacted time available for implementing inclusive learning strategies and academic accommodations for neurodivergent graduate and professional students.

In the faculty focus groups, we asked faculty to reflect upon and share their thoughts about BSU values in order to ascertain how the departmental and university climate might be influencing the kinds of experiences SGS students relayed in the disabled graduate and professional student focus groups. In addition, we wanted to gain a better understanding of how the faculty’s experiences impacted their ability

to implement academic accommodations and apply inclusive learning practices. Across all three focus groups, faculty spoke of the pressure to research and publish, and noted that the prestige and reputation of BSU as a top research university meant that faculty research was the most valued activity, more valued than service or teaching itself. When asked about what BSU values and what each faculty member's department values, a representative statement from one faculty member pointed out that departmental values are different from BSU values:

“The university really wants to be a leader among sort of the brightest and the best and to compete with Ivy League and other sort of enrollment institutions. Departments tend to be much more open towards students and really care about who's here– that, you know, the boots on the ground. But the leadership of the university seems to care very little about well being or students and more about sort of a prestigious reputation. (Faculty Focus Group, March 10, p. 14)”

In response to that same prompt, another faculty member expanded on who within the departments is actually doing the service-type work of “dealing with” issues like working with neurodivergent students:

“I think my department tries to actually honor the service [for tenure] and not just leadership, but of course, we're limited because we're within a system that really prioritizes the research.... this particular issue– neurodivergent graduates students– falls to the people who do most of the service, who are viewed as lower status than the people who do all the research and it isn't coincidence that, that the greatest, deepest bias against neurodivergent students comes from my colleagues who are most prized for their research” (Faculty Focus Group, March 10, p. 15).

The conversations related to values and how faculty prioritize their time reflects the climate that Weidman, Twale and Stein center in their *Framework* as it relates to the influence the university places on the faculty, and the faculty on the graduate and professional students. As such these elements shape the environment in which SGS's neurodivergent students attempt to socialize. Faculty realize that service work, such as learning new ways to support a diverse student body, is important, but when BSU leadership places such an exclusive premium on research, that creates a tension between the pressure to publish and the need to nurture students struggling to socialize. Despite the consensus on what BSU values and how faculty prioritize their time, there was hope relayed in comments about SGS leadership, individual departments, and individual faculty members.

Throughout the faculty focus groups, most faculty noted that they saw an absence of BSU central leadership in conversations about disability and what it means to create inclusive learning environments. Furthermore, most faculty noted that institutional systems and structures were roadblocks for student socialization.

“I have been hammering away at this issue since I got to this campus 12 years ago. And I should say the frustration that I'm about to– that I have already vented to the [SGS] and to the head of the Office of SSD....when I got here, I was appalled at the paltry support there is for faculty dealing with neurodivergent students and what was available to the students themselves” (Faculty Focus Group, March 10th, p. 8).

Yet the university climate and culture were countered by comments about some faculty members being open to change and being flexible. One faculty member, who had discussed having both a neurodivergent child and prior experience at another institution with a more robust support system, described the work

involved in advocating for change:

“...I think you know individual departments or individual faculty members can make some marginal improvements, you know, may be able to conquer the trust of the students, and you know, and make them feel that they are indeed part of the potential [solution]” (Faculty Focus Group, March 10, p. 12).

In a later focus group, when asked about barriers and challenges that might prevent student socialization, faculty described the tension related to systemic structures, like the rules pertaining to degree completion, as obstacles. Several faculty members noted that the time to degree does not seem realistic for some neurodivergent students, and one talked about a specific student’s struggles:

“...Because we’re still a very heavy exam-based kind of program....We don’t have a lot of ideas about other ways to help our students meet the kinds of expectations that are built into those exams....But when I think back to students, we used to have students who’d fail the same exam multiple times, and then they would just leave with a feeling– I can’t imagine how other students felt....it was a kind of really overt humiliation....I mean, just with that sense of failure.” (Faculty Focus Group, March 14, p. 7-8).

Meanwhile, in another focus group, when asked about barriers to change, one faculty member pointed out that the younger faculty, and graduate and professional student instructors themselves, tend to be much more open to working with neurodivergent students and making accommodations whereas more experienced faculty tend to be more resistant to change:

“GSIs are far more willing to engage with the students, give the accommodations, etc, etc. Where and I’m not, you know, I’m casting kind of broad stereotypes here, but our older faculty are the ones where I see the issues coming in. And I think some of it comes around some of the things we’ve talked about. It’s always been there. We just haven’t had the terms about it. It’s resistance to change or kind of young, just in life, younger people tend to be more flexible about those things” (Faculty, Focus Group, March 10, p. 11).

Another faculty member responded pointing out that change needs to be systematic but that individual faculty members and departments do have the influence and capacity to make a positive difference in students’ experiences:

“...this is a problem that requires a systematic take. It is not something that I think that can be addressed in a piecemeal fashion. I think you know individual departments or individual faculty members can make some marginal improvements, you know, may be able to conquer the trust of the students, and you know, and make them feel that they are indeed part of the potential [solution]” (Faculty Focus Group, March 10, p. 12).

While there are glimmers of hope among younger faculty members as well as individual departments and faculty members throughout SGS, BSU’s climate, systems, and structures that shape the environment create obstacles for neurodivergent graduate and professional students during the socialization process. Faculty members struggle with how to balance the pressure to publish and the need to support neurodivergent students. Furthermore, many faculty members struggle with conceiving of different ways neurodivergent learners could complete degree requirements within the parameters of

university policies. Given the value placed on publishing and researching by the university and academic discipline, these findings demonstrate the tension faculty face in turning their focus on teaching and advising students. With little time to devote to service and teaching, it is difficult for faculty to make the time to meet the needs of this growing and heterogeneous population of students.

Research Question 3: Given that faculty are primary agents of socialization, what contributes to SGS faculty members' cultivation of climate for neurodivergent students within their community of practice?

Finding 3: SGS faculty participants who had been exposed to or trained in universal design had more positive beliefs about neurodivergent students' capabilities compared to neurotypical individuals in their program and in their field which in turn contributes to a more welcoming climate.

Looking at our *Faculty Climate Survey* data, Universal Design for Learning (UDL) stands out as the independent variable that most strongly predicts positive beliefs about neurodivergent students. Our multiple linear regression analysis showed that beliefs about student accommodation use can be significantly predicted from familiarity with and training in universal design, $F(15, 183) = 5.07, p < .05, R^2 = .294$. This is consistent with prior studies that showed institutional training support impacted faculty attitudes and actions towards accommodations in the classroom (McCarron, 2017; Lombardi, Murray & Gerdes, 2011). Considering the central premise of UDL is that it leads to universal accessibility, perhaps the simple awareness of universal design prompts faculty to believe that all students, regardless of disability, can access the course and succeed in it.

The faculty focus groups complicate the narrative around creating universally accessible learning environments and the expected rigor of the academic discipline. Golde (2005) discusses at length the graduate and professional student socialization process as it relates to the university, department, and the professional discipline. Not only are graduate and professional students experiencing the climate of their university, academic department, and chosen discipline, but also how that academic department defines that discipline. Throughout the focus groups, faculty reference the tension between their department climate and that of their discipline on what it means to reasonably accommodate a neurodivergent graduate and professional student and the professional rigors of the program.

“...the longer I’ve been teaching, the more I’ve become comfortable with thinking about the fact that not everybody in the world should become a professor...we’re like a top-two top-three department in the country and we have 70% placement of our students in tenure track jobs....That becomes the assumption that we’re training a bunch of professors who are going to go teach in peer institutions in top departments and shape the field. That’s...already incredibly high-pressure right to the point of being disabling for some people who weren’t neurotypical. And, um, not everybody needs to do that and not everybody should do that”(Faculty Focus Group, March 14, p. 10).

To expand on this thinking, some faculty members expressed concern that if they made reasonable accommodations while the graduate and professional student is studying at the university, they would not make it in the professional field after earning their degree. The faculty, therefore, pondered about what the limitations are to accommodations and when do they stop being beneficial to students?

“And maybe it’s an assumption that well.... but if we’re too soft on them here, once they hit the job market and the refereed journal articles scene and all that they’re going to get slammed and they won’t know what hit them. And so it’s almost like that puts a kind of limit on the accommodations

we're willing to make" (Faculty Focus Group, March 14, p.8).

Faculty did note throughout the focus groups that they had a desire to learn how to better support and create inclusive learning environments for neurodivergent students. Some faculty noted that they are personally interested in learning about neurodivergent graduate and professional students and UDL out of moral obligation.

"So I'm learning more about this, but it's because I'm seeing so much of this that I feel I need to know" (Faculty Focus Group, March 10, p. 7)

Due to this motivation, there is a desire to learn more. As noted in the findings above, faculty acknowledge and understand that they need to learn more about the accommodations process in order to better support neurodivergent graduate and professional students in their community of practice. Furthermore, they understand that there are ramifications to not putting forth efforts to learn about neurodivergence and UDL.

"...people with their bunch of words of dyspraxia, dyscalculia that you put in the chat, I don't really know what those things are. And I wish that we would, that the university would do something at the chair level in different departments to say here are some workshops...So if we could just have something that in each department, each school, to have some sort of workshop like this is what you need to know....We're just getting words to talk about them"
(Faculty Focus Group, March 10, p. 10).

All faculty also discussed that they wanted to be empowered to better support neurodivergent students by understanding what it means to be neurodivergent and how to apply practices of UDL. This knowledge and understanding would allow faculty to be flexible with their neurodivergent students so they can have more meaningful conversations with them about what it means to be a scholar or researcher in their respective field of study:

"If we are training people to be scholars, our sense is that they need that skill. So then how accommodating can we be around those skills for a graduate student?...So I'm just kind of struggling with where that lies and how demanding you are. And I'm just, I don't have an answer clearly, but I'm must have dissonance around it. So that the accommodation doesn't preclude the skills that they do need to be a scholar and scientist as they move into their lives, and then that makes me think so then does a scholar look different than what we've traditionally defined. And heavens, are we open to that? Probably not to be honest" (Faculty Focus Group, March 10, p. 13).

Faculty are trying to work through the complexity of what it means to provide needed accommodations and academic supports to neurodivergent graduate and professional students. The faculty are grappling, however, with how best to socialize neurodivergent graduate and professional students in inclusive ways that acknowledge their learning needs while not compromising academic and professional rigor. Furthermore, faculty are working to navigate what it means to challenge historic, departmental and university notions of what it means to be a scholar, researcher and clinician.

Research Question 4: What are the factors that contribute to faculty members' willingness to accommodate neurodivergent graduate and professional students within their community of practice?

Finding 4: BSU faculty participants who were exposed to neurodivergent individuals had an increased willingness to devote time and resources towards accommodating neurodivergent students.

While one might assume that personally-identifying as neurodivergent might lead a faculty member to be more willing to accommodate neurodivergent students within their department, the stronger predicting variable is having a close contact who identifies as neurodivergent. Our multiple linear regression analysis in the *Faculty Climate Survey* showed that willingness to be flexible with accommodations can be significantly predicted by having at least one close contact who identifies as neurodivergent, $F(15, 183) = 3.47, p < .05, R^2 = .221$. Consistent with McCarron's (2017) study, faculty who have exposure to neurodiversity have a stronger willingness to accommodate than faculty who are themselves neurodivergent. Perhaps seeing a close contact, like a family member, struggle to access education in the same way as neurotypical students elicit enough empathy for faculty to move from having positive beliefs to actually trying to make their community of practice more accessible, inclusive, and equitable. Our focus group data further supports this finding.

Many faculty members mentioned having close contacts, mainly children, who are neurodivergent. In discussing universal design, one faculty member commented about the struggles her son, who is on the autism spectrum, experiences in school and how that informs her teaching:

“I am also the parent of a child on the spectrum...he's 22 now and is in college, but it's, it definitely colors how I deal with teaching...He is at a point where he's had IEPs over the years that have been sources of endless frustration... But with students.... I think a lot about universal design issues. And I feel like that is a way of cutting across some of these administrative components” (Faculty Focus Group, March 11, p. 8).

In another focus group, a faculty member disclosed her son is neurodivergent, that she has worked at multiple institutions, and dealt with many neurodivergent students across all of them. She noted that some institutions are better or worse than others when it comes to accommodations. This faculty member also shared why she thought BSU was far from being able to educate faculty on these issues:

“And I still feel like [SGS] does not appreciate the level of bias in our colleagues. I mean, they're perfectly well meaning people but they don't know they haven't been educated, and, and we can talk about changing the way we do things. But until we've confronted the fundamental bias in the way faculty members think about students with learning disabilities, we're just making the changes. We want to make that much harder to do because I can't be the only or we can't be the only department with about a third of the faculty who are just super resistant to changing anything to accommodate anyone” (Faculty Focus Group, March 10, p. 9).

Both the survey data and the focus group data support the finding that exposure to neurodivergent individuals is more likely to lead to faculty willingness to provide accommodations. Faculty are required by law (ADA, 1990) to put approved accommodations into place by SSD, however, faculty's willingness to work with the student and SSD in finding the best way to put the accommodation into place is the next step in creating an inclusive learning environment. Literature on neurodivergent students in educational systems supports this as well. In talking about primary challenges in responding to neurodivergent students engaging with faculty in the classroom, Clouder et al. (2020) note, “These people are not bad people; their attitudes are likely fueled by low levels of knowledge and awareness that militate against difference and willingness to think inclusively,” (p. 774). As the SGS faculty member above stated, faculty can be “well meaning people but they don't know they haven't been educated,” (Faculty Focus Group, March 10, p. 9).



RECOMMENDATIONS

BSU's Executive Summary included recommendations to improve the climate based on their student data collected in 2019 and 2020. We built on these recommendations, and developed recommendations to consider how to improve the socialization of neurodivergent graduate and professional students based on the data and findings from the *Faculty Climate Survey* and focus groups we conducted in 2021 and 2022. SGS received initial recommendations from the third party campus research firm and a separate BSU study through the *Needs Assessment* and graduate and professional student focus groups respectively. The *BSU Summary Report* (2020) breaks the recommendations from the *Needs Assessment* and focus groups up into two parts: Campus-wide and SGS. The recommendations were as follows:

Campus Wide:

1. Clarify and develop policy and decision making capacity for the university and faculty by training faculty and staff on how to understand and implement accommodations.
2. Centralize the accommodations process between academic and employment accommodations.
3. Create staff or faculty liaisons within SGS divisions, as well as centralizing SSD case managers and funding for disabled graduate and professional students.
4. Institute a BSU central standing committee on disability.

SGS Actions:

1. While the campus-wide initiatives are in development, SGS should create their own disability advisory committee which will provide a guidance framework, develop learning objectives for faculty about disabilities and host ongoing listening sessions for disabled stakeholders.
2. Identify ways to better disseminate information to students, faculty, and staff through the SGS website, physical spaces, and social media platforms.
3. Create a disability advocate position for academic accommodations and new funding source for students who incur expenses related to their disability through their graduate education.
4. Review of physical spaces, technology platforms, software, hardware, and policies as it relates to disabled graduates students.

RECOMMENDATION 1

Pre-Orientation Bridge Program for Neurodivergent Graduate and Professional Students

Currently, SGS partners with academic departments under their umbrella to host six distinct bridge programs focused on transitioning graduate and professional students in various capacities into their degree programs. The current bridge programs feature a range of opportunities from pre-doctoral coursework for students from marginalized communities to funding for Master's level students to gain needed professional experience, knowledge, and tools in their field of study. Each of these bridge programs occurs over a period of time from six months to two years. In addition to these bridge programs, the SGS Student Life Team worked with graduate and professional students to develop affinity groups that foster the intersectionality of students' identities and provide community for students from marginalized communities including disabled students. From these affinity groups, SGS worked to create pre-orientation transition programs which host discussion forums, events, and workshops for first-year graduate and professional students.

Our first recommendation builds off the work already in place by SGS in transitioning graduate and professional students into their next level of academic and professional growth through the institution of a pre-orientation bridge program specifically designed for neurodivergent graduate and professional students at both the masters and doctorate levels. This non-credit bearing bridge program would provide support for first-year graduate and professional students before starting their graduate or professional program, and enhance the established affinity group for disabled students.

We know from research that neurodivergent students struggle with change, and navigating new systems and structures which can cause anxiety and feelings of helplessness (Kwon, Kim & Kwak, 2018, in Clouder et al, 2020). Research also shows that neurodivergent students bring with them self-narratives about what it means to be neurodivergent within educational structures that can help or hinder their participation in learning (Miller, Rees, & Pearson, 2021; McDermott, 1993). Bridge programs, therefore, serve as a portal into a graduate and professional student's community of practice, especially for emerging scholars who are from underrepresented communities (McCoy & Winkle-Wagner, 2015). The week-long experience would engage neurodivergent students in self-reflection, e.g. understanding the stories they tell themselves about themselves, and how those aspects of their identity impact how they participate in learning. Students would also learn about the resources available to them on campus, including a full review of the BSU accommodations process, as well as those individuals who can support them with questions and challenges they are facing in the academic classroom, lab, or clinical environments, e.g. campus advocates, SSD Divisional Specialists and faculty. Self-advocacy skills and tools are a large component of the support neurodivergent students use most (Gilliespie-Lynch et al., 2017). Understanding their rights under ADA (1990), and the language to use when asking for what they need to be successful in their learning environment will allow neurodivergent students to feel empowered in being agents in their own educational experience.

Furthermore, in the *BSU Summary Report (2020)*, graduate and professional students noted that they did not feel welcomed or that they could even disclose that they had a disability. A pre-orientation bridge program also signals to students that the University welcomes neurodivergent individuals, in a way normalizing their experience on campus. In addition, faculty discussed in the focus groups that neurodivergent students lacked a sense of community, as well as the skills to take agency and be advocates in their learning experience. This sentiment was also echoed in the *BSU Summary Report (2020)* findings. A bridge program would allow neurodivergent graduate and professional students to develop community with one another – cohort building, as well as positive and productive relationships with faculty in their respective programs (McCoy & Winkle-Wagner, 2015). In addition, a bridge program would give the graduate and professional students skills to better understand their academic experience and provide an opportunity for socialization to take place in a

structured and sensory-sensitive way. A bridge program is also another way faculty can be further exposed to the neurodivergent experience by working with SSD and SGS team members to design and implement the pre-orientation bridge program. For further consideration, a bridge program for neurodivergent graduate and professional students as they transition into a professional experience beyond their degree would provide similar benefits to students transitioning into new environments that have different processes, procedures, and cultures related to disability.

RECOMMENDATION 2

Services for Students with Disabilities (SSD) Divisional Specialist

As mentioned in the Organizational Context, SSD is one of the few departments at BSU which is centralized and supports a diverse array of disabilities at both the undergraduate and graduate level. Disability services offices are designed to ensure that disabled students receive equal opportunity for education and success in college while preparing for future careers, and these offices are required to comply with the requirements of ADA (1990) by providing reasonable accommodations which maintain institutional academic standards (Scott, Markle, Wessel & Desmond, 2016). In the *BSU Summary Report* (2020) and the faculty focus groups, both disabled graduate and professional students noted the confusion they had with the BSU accommodations process, challenges in communicating with the office regarding students' rights and faculty questions, as well as how to best put accommodations into place.

To meet the individual needs of a diverse community of neurodivergent individuals as it relates to sensory needs, improve communication to both graduate and professional students and faculty, as well as provide the needed guidance for faculty and graduate and professional students in which to put reasonable, relevant, and needed accommodations into place, our second recommendation is the creation of an SSD Divisional Specialist position. Reporting to the SSD Department, a Divisional Specialist would be placed in each of the four academic divisions, similar to the model already implemented by the professional schools at BSU. Given the expense of this recommendation, a phased approach, whereby an SSD Specialist is placed in the division where support is most needed, or an SGS-wide SSD Specialist could be considered.

The SSD Divisional Specialist would provide the needed support, facilitation and navigation tools for both students and faculty to work together to provide inclusive yet professionally appropriate educational environments. Models at Ohio State University (S. Lissner, personal communication, January 24, 2022) and Ball State University (Scott, Markle, Wessel, & Desmond, 2016) show that fostering relationships between Disability Services offices with campus partners and faculty in their various disciplines can create partnerships that successfully meet the needs of students. "When faculty members have an understanding of the needs of students, they are able to create accommodations that allow students to succeed academically while maintaining the rigor of the curriculum," (Scott, Markle, Wessel, & Desmond, 2016, p. 216).

The SSD Specialist would not only be able to bring awareness to the accommodations process in each division but also be a resource navigator for both faculty and graduate and professional students. The Divisional Specialist would work institutionally and through each discipline to assist each stakeholder in determining what reasonable accommodations can be put into place to best support graduate and professional neurodivergent students while maintaining disciplinary standards. Situating an SSD Specialist in each of the divisions would allow faculty to develop a relationship and trust with the Specialist in order to navigate needed support for a neurodivergent graduate and professional students. Furthermore, in meeting with an SSD Specialist, neurodivergent graduate and professional students would also be able to take agency in working with faculty and the Specialist to determine which academic accommodations might best serve their needs.

In addition, throughout the faculty focus groups, the tension between the competencies, skills, and knowledge needed to be a successful scholar, researcher and clinician brought faculty to a standstill in supporting neurodivergent students. The faculty also found this tension and complexity in applying students' academic accommodations, if requested. Graduate and professional students acknowledged a similar tension in both the *Needs Assessment* and graduate and professional student focus groups (BSU Summary Report, 2020). The students, however, felt this tension through a perceived negative climate around disabled individuals. Giving academic departments, faculty, and neurodivergent graduate and professional students a Specialist to turn to when there are questions regarding negative stereotypes and perceptions about neurodivergent graduate and professional students will enhance the climate and reduce stigma by normalizing neurodivergence, and the ability for the tension between disciplinary requirements and reasonable accommodations to be mediated.

RECOMMENDATION 3

Knowledge Development and Incentives for Faculty

We learned from Weidman, Twale and Stein's *Framework* and comments from the graduate and professional students through the *BSU Summary Report (2020)* that faculty are key contributors to how graduate and professional students are socialized and experience climate within their community of practice. We also learned through the *Faculty Climate Survey* and faculty focus groups that training is significant in the faculty's willingness to provide needed accommodations and beliefs that neurodivergent students are capable professionals and scholars. As one faculty member mentioned in the focus groups, faculty's hearts are in the right place, but they do not have the language, tools, time, or training to put the right interventions in place to support neurodivergent students. In the faculty focus groups and *Faculty Climate Survey*, three areas of knowledge and skills with which faculty needed training in order to better support and socialize neurodivergent graduate and professional students became prevalent:

1. What is universal design for learning and what does it look like to go beyond compliance with academic accommodations to create inclusive learning environments?
2. What does it mean to be neurodivergent and how do students' learning differences impact participation in and socialization to the university and discipline?
3. What language can faculty use when talking with neurodivergent graduate and professional students concerning their learning differences and needs, as well as how to have conversations with neurodivergent graduate and professional students about their realistic progression in the discipline?

Universal Design for Learning (UDL):

In most faculty focus groups, faculty admitted googling universal design for learning as this topic came up in the group discussion. Other faculty mentioned hearing about UDL but this knowledge either came from another institution, personal research, or was discussed at BSU, but how to put UDL into practice was not discussed. Faculty also mentioned teaching pedagogy and strategies that they are already using in the classroom to support students which were UDL, however, they did not know that the practices they are already implementing in the classroom are UDL. In addition, faculty also indicated that they needed to understand how UDL, as a program theory for creating inclusive learning environments, is connected with the BSU academic accommodations process. Applying academic accommodations for neurodivergent students in ways that meet their learning needs is part of a UDL approach. Going beyond compliance while connecting the various facets of the accommodations process and practical UDL strategies is needed.

During the focus groups, it was clear that the faculty also appreciated learning from their colleagues on how to better support neurodivergent students.

Neurodivergence:

In both the *Needs Assessment* and graduate and professional student focus groups, students stated that BSU faculty and staff were not aware or familiar with what being neurodivergent means, or that their learning differences were even real. In the faculty focus groups, faculty indicated that they are aware of neurodivergence, believe differences in learning and sensory processing are real, and had worked with students who are neurodivergent but did not have a deep understanding of how neurodivergence impacts learning. As such, socializing neurodivergent students in the department and academic discipline causes tension, and neurodivergent graduate and professional students feel they do not belong. We know from the *Faculty Climate Survey* data that exposing faculty and academic staff to neurodivergent individuals, and learning about their experiences will positively influence faculty's beliefs and willingness to provide neurodivergent students the academic accommodations and support needed to participate in learning.

Interability Language:

In the faculty focus groups, faculty discussed at length that they did not have the language and tools needed to feel comfortable entering into dialogue with neurodivergent students about their learning and sensory needs. This discomfort or even fear, therefore impacts the faculty's ability to effectively socialize neurodivergent students into their discipline exacerbating graduate and professional students' feelings of not belonging and feelings of shame around their disability as described in the graduate and professional student focus groups. Byrd and Zhang (2020) conducted a study around intergroup contact theory as it related to how individuals without disabilities communicate with individuals with disabilities. The researchers defined this type of communication as interability communication.

Through their findings, Byrd and Zhang (2020) discovered that frequent and positive intergroup contact can reduce intergroup prejudice and improve intergroup relations. Furthermore, the frequency of communication between those without disabilities and those with disabilities is a positive predictor of intergroup attitudes and a negative predictor of endorsement of stereotypes. In addition, frequency of communication reduces communication anxiety of non-disabled individuals with disabled individuals and enhances interpersonal relationships.

Educational Settings for Faculty

Throughout the faculty focus groups, the faculty discussed ways in which they would like to participate in learning about the accommodations process, neurodivergence, how to apply approaches to UDL, as well as language to use when speaking to neurodivergent graduate and professional students. Faculty panels and workshops that feature faculty who are experienced in working with neurodivergent students and universal design would benefit less experienced faculty. Panels and workshops led by experienced faculty can also authenticate and motivate their peers in implementing UDL inclusive learning strategies, especially as it relates to the nuances of their field of study. The faculty noted that they wished to access and utilize resources like the CRLT, departmental course design specialists, or 1-1 discussions with the SSD Specialists to answer questions and design educational environments in which neurodivergent students can actively participate.

In addition, the *Faculty Climate Survey* and focus group data also brought to light the importance of the faculty participating in panel discussions that feature neurodivergent individuals, and talking to faculty who have experience working with neurodivergent graduate and professional students. Both educational methods would add to the faculty's exposure to and understanding of the neurodivergent graduate and professional student experience. While learning about neurodivergence and UDL, faculty

can also participate in case studies and performance-based dialogue practice to understand and practice how to effectively engage in interability communication, thereby reducing their anxiety and encouraging relationship development with neurodivergent graduate and professional students.

Incentives for Faculty to Participate in Training

In addition to suggestions for training, the faculty mentioned that although BSU messages that they value creating and fostering inclusive learning environments, the university does not provide the needed funding nor incentive mechanisms for faculty to seek out and implement the knowledge that would support the neurodivergent student experience. A current example of this is low faculty awareness and attendance at various trainings SGS and SSD have already worked to implement about disabled graduate and professional students in the fall 2021 and spring 2022 semesters. Faculty mentioned several times during the focus groups that they are looking for institutional, divisional, and departmental leadership in “setting the expectations” of what is needed and valued from faculty in their engagement with and socialization of neurodivergent graduate and professional students.

Providing incentives which could include departmental budget lines for training, course releases, and/or requirements for departments to make time in which to engage faculty in training on disabled graduate and professional students, specifically neurodivergent graduate and professional students and universal design is needed. Furthermore, in the faculty focus groups, faculty mentioned awareness and use of the trainings hosted by the CRTL which would be a great partner in providing faculty resources and support in designing inclusive learning environments through UDL that not only support neurodivergent learning but the neurodiversity of all learners.



CONCLUSION

We set out to understand the socialization process for neurodivergent graduate and professional students at BSU. Based on their own findings from student data in the *BSU Summary Report (2020)*, a significant portion of their disabled graduate and professional students did not seek accommodations for fear of stigma or shame. Our review of the literature and conceptual framework narrowed our focus to center on the core of the *Interactive Framework for the Socialization of Graduate and Professional Students*, which highlights the university itself and the climate and structures that shape the environment in which neurodivergent students socialize. Our mixed-methods approach yielded interesting findings supported by the literature, which ultimately formed the basis of our recommendations.

Our findings echoed the relevant literature on neurodiversity in educational systems, socialization in graduate school, diversity, equity and inclusion in higher education, and the role faculty members play in creating an inclusive environment. Weidman, Twale, and Stein describe faculty members as “the primary agents of socialization.” Our findings align with the literature on faculty attitudes, beliefs, and willingness to accommodate students, which at BSU means there are individual faculty members with agency to create inclusive socialization processes, but broader systemic change is needed to truly create lasting change.

Our recommendations also relate back to the literature, especially on universal design for learning and bridge pro-grams. If BSU can incentivize faculty participation in learning about universal design for learning, spaces within the institutional environment can become more inclusive and accessible to all. Having dedicated support from SSD would complement the increased awareness and knowledge of inclusive spaces by reassuring faculty that they have the necessary resources and support to implement change. Finally, a dedicated pre-orientation bridge program for neurodivergent students will provide a structure of support ahead of official matriculation to help students adjust to SGS’s climate, understand the structures and systems for accommodations and support ahead of time, and jump start the socialization process.

Our findings and recommendations are just a starting point for BSU and other colleges and universities interested in improving the socialization process for neurodivergent graduate and professional students. Our project was not without limitations, however, and there is still much work to be done in this area to better understand the perceptions of socialization experience of neurodivergent graduate and professional students. There was a low response rate to the *Faculty Climate Survey*, no representation from the engineering fields in the faculty focus groups, and we were not able to access the raw student data from the *Needs Assessment* and student focus groups from the university. The literature review discussed the lack of data on neurodivergent graduate and professional students, so this experience was not completely surprising. Future studies could focus more on the neurodivergent student perspective rather than the faculty perspective, and attempt to collect raw student data, like the total number of neurodivergent students compared to neurotypical students and their experiences successfully socializing. Additionally, looking at the neurodivergent student socialization experience across a variety of disciplines, including engineering, would be informative.

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Appendix A- Faculty Climate Survey Questions

BSU Faculty Climate Survey

Start of Block: Study Information & Informed Consent

Q1 Study Information & Informed Consent

Q2

The following information is provided to inform you about the research project and your participation in it. Please read this carefully and feel free to email any questions you may have about this study and the information given below. For questions or if you would like to receive a copy of the consent form, please email caitlin.h.cochran@vanderbilt.edu.

You are being asked to take part in this research study because you are a valued faculty member associated with the Big State University (BSU) who works closely with graduate and professional students as a faculty advisor, core course instructor and/or department chair. This study mirrors a comprehensive needs assessment of disabled graduate and professional students implemented by BSU in 2019. The survey questions are adapted from Baker, Boland & Nowik's (2012) faculty climate survey regarding undergraduate students with disabilities.

Through this faculty survey, we will examine how perceptions of the accommodations process and the overall climate at BSU impact the socialization process for neurodivergent graduate and professional students. Socialization refers to the process whereby a student transforms into a scholar or professional within their academic field.

For the aims of our study, "neurodiversity" is an umbrella term used to characterize sensory differences in individuals. Neurodivergent individuals may display language difficulties, communication challenges, or difficulty modulating their activity and/or attention. In addition, neurodivergent individuals may also display heightened abilities to focus on small details within complex patterns, superior artistic skills, and higher-than-average entrepreneurial skills. Medically, and for the purposes of receiving disability accommodations, neurodivergent individuals can typically be diagnosed with any one, or combination of any of the following: attention deficit hyperactivity disorder, autism spectrum disorder, dyslexia, dyspraxia and dyscalculia.

During this survey, you will be asked to complete questions about the overall climate at BSU, your overall knowledge about neurodiversity, what your experience is with and understanding of neurodivergent students, how you would define what it means to foster an inclusive classroom or lab, as well as how formal academic accommodations are viewed and implemented.

There are no risks associated with completing this survey. Your participation is voluntary, and your responses will remain anonymous and confidential.

The potential benefits of this study include recommendations for improving the accommodations process and overall climate at BSU for neurodivergent graduate and professional students. This study has the potential to improve the overall well-being, success, and sense of belonging among the growing number of neurodivergent graduate and professional students at BSU and other universities, as well as their ethical socialization into their chosen field of practice.

You do not have to be in this research study, and you may stop participating in this survey at any time by simply closing your web browser prior to submitting your answers.

There is no cost or compensation associated with your participation in this survey.

The survey should take approximately 10-15 minutes to complete.

CONFIDENTIALITY: All efforts, within reason, will be made to keep your responses anonymous and confidential. All survey responses will be maintained in a spreadsheet stored in a secured Vanderbilt University Box folder accessible only by the researchers and faculty advisor.

CONTACT INFORMATION: If you should have any questions about this research study, please feel free to contact Caitlin Cochran at caitlin.h.cochran@vanderbilt.edu or Jessica Edonick at jessica.l.edonick@vanderbilt.edu, or our Faculty Advisor, Michael Neel at michael.a.neel@vanderbilt.edu. For additional information about giving consent or your rights as a participant in this study, to discuss problems, concerns, and questions, or to offer input, please feel free to contact the Vanderbilt University Institutional Review Board Office at (615) 322-2918 or toll free at (866) 224-8273.

Please affirm your consent below to proceed with our survey.

- I understand the scope of this study as described above and consent to participate in this study and complete this survey. (1)

Q3 You may print or save this page for your records. Press **CTRL + P** on a PC or **Command + P** on a Mac.

End of Block: Study Information & Informed Consent

Start of Block: Tell us about yourself

Q4 Tell us about yourself

Q39 Are you scheduled to teach at least one graduate level course, or provide research or clinical support to graduate students during this academic year, either Fall 2021 or Spring 2022?

Yes (1)

No (2)

Skip To: End of Survey If Are you scheduled to teach at least one graduate level course, or provide research or clinical su... = No

Q5

Please select the academic program in which you primarily teach and/or provide support to graduate and professional students. If you are associated with more than one academic program, please select the one in which you spend the most time.

▼ Administration of Non-Profit Agencies (129) ... Other academic program not listed (130)

Display This Question:

If The academic program in which you primarily teach and/or provide support to graduate and professional = Other academic program not listed

Q40 You selected "Other academic program not listed" in the question above. Please enter the full name of the academic program in which you primarily teach and/or provide support to graduate and professional students.

Q10 Please select the role that best describes your faculty appointment at BSU.

▼ **ADJUNCT ASSOC PROFESSOR (5) ... Other (4)**

Q6 Please select the number of years you have been teaching in higher education.

▼ **less than 1 (1) ... more than 20 (21)**

Q12 In what roles do you serve within BSU? (select all that apply)

- Faculty Advisor (1)**
- Research Advisor (2)**
- Core/Required course instructor (3)**
- Non-Core/Non-Required Course Instructor (8)**
- Assistantship Supervisor (4)**
- Clinical supervisor (9)**
- Department Chair (5)**
- Director of Graduate Studies (6)**
- Other (7)**

Q11 With which student populations do you work or teach? (select all that apply)

- Undergraduate Students (5)**
- Master's students (1)**
- Doctoral Students (2)**
- Post-doctoral Students (3)**
- Professional Students (dental, medical, law) (4)**
- Non-degree or Special Students (6)**

Page Break

Q7 With which gender identity do you most identify?

- Man (1)**
 - Woman (2)**
 - Transgender (3)**
 - Nonbinary or genderqueer (4)**
 - Another identity not listed (5)**
-

Prefer not to answer (8)

Q8 With which racial and ethnic identity do you most identify?

- Asian or Asian American (1)**
- Black or African American (2)**
- Hawaiian or Other Pacific Islander (8)**
- Hispanic or Latinx (3)**
- Middle Eastern or North African (9)**
- Native American or Alaska Native (4)**
- White or European American (5)**
- Additional identity not listed (7)**
-
- Prefer Not to Answer (6)**

Q9 In which country have you spent the most time?

Example: I have lived in the United States for 7 years and in Spain for 20 years, therefore my answer would be "Spain."

End of Block: Tell us about yourself

Start of Block: Exposure to Neurodiversity

Q13 Exposure to Neurodiversity

Q14

For the aims of our study, "neurodiversity" is an umbrella term used to characterize sensory differences in individuals. Neurodivergent individuals may display language difficulties, communication challenges, or difficulty modulating their activity and/or attention. In addition, neurodivergent individuals may also display heightened abilities to focus on small details within complex patterns, superior artistic skills, and higher-than-average entrepreneurial skills. Medically, and for the purposes of receiving disability accommodations, neurodivergent individuals can typically be diagnosed with any one, or combination of any of the following: attention deficit hyperactivity disorder, autism spectrum disorder, dyslexia, dyspraxia and dyscalculia.

Do you identify as neurodivergent?

- Yes (1)
- No (2)
- Prefer not to say (3)

Q15 Do you have any close contacts who identify as neurodivergent (example: partner, relative, or friend)?

- Yes (1)
- No (2)
- I do not know (3)

Q16 Since you started working at BSU, about how many graduate or professional students in total have you taught and/or worked with directly? (please enter numbers only)

Q17 Out of the estimated total number of graduate and professional students you have taught and/or worked with at BSU, about how many have identified themselves to you as neurodivergent? (please enter numbers only)

End of Block: Exposure to Neurodiversity

Start of Block: Overall Climate

Q18 Overall Climate

Q19 In your opinion, what is the overall climate at BSU for neurodivergent graduate and professional students?

- Very Unfavorable (1)
- Somewhat Unfavorable (2)
- Neither Unfavorable or Favorable (3)
- Somewhat Favorable (4)

Very Favorable (5)

End of Block: Overall Climate

Start of Block: Knowledge and History about Neurodiverse Students

Q20 Knowledge and History about Neurodiversity

Q21 Please rate your agreement with the following statements.

	Strongly disagree (13)	Somewhat disagree (14)	Neither agree nor disagree (15)	Somewhat agree (16)	Strongly agree (17)
Prior to this survey, I was familiar with the term "neurodiversity" and what it means. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am familiar with section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (1990), and their implications for neurodivergent students in institutions of higher education. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Knowledge and History about Neurodiverse Students

Start of Block: Familiarity with Neurodiverse Students and Universal Design

Q22 Familiarity with Universal Design

Q23 "Universal design" is the design of the products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

Please indicate your familiarity with the following concepts.

	Extremely unfamiliar (1)	Somewhat unfamiliar (2)	Neutral (3)	Somewhat familiar (4)	Extremely familiar (5)
Universal design principles generally. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Universal design principles specifically applied to courses in my field. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q24 Thinking of your entire time working at BSU, about how many times have you received training in the following areas?

	Never (1)	Once (2)	More than once, on an irregular schedule (3)	More than once, on a regular schedule (4)
How to support and work with neurodivergent students (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to embed universal design principles into your coursework (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Familiarity with Neurodiverse Students and Universal Design

Start of Block: Inclusion in the Classroom

Q25 Inclusion in the Classroom

Q26 Please rate your agreement with the following statements.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Engaging with neurodivergent students teaches others that being different is okay. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

As far as I know, neurodivergent students are satisfied with their classroom experience. (5)

End of Block: Inclusion in the Classroom

Start of Block: Beliefs about Neurodiverse Students

Q27 Beliefs about Neurodivergent Students

Q28 Please rate your agreement with the following statements.

	Strongly disagree (6)	Somewhat disagree (7)	Neither agree nor disagree (8)	Somewhat agree (9)	Strongly agree (10)
Neurodivergent students are just as capable of competing academically at the graduate and professional level as other students. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Neurodivergent students are just as capable of meeting the demands of my academic program compared to other students. (1)

Neurodivergent students are just as capable of meeting the demands of a job in my field compared to other students. (2)

From my experience, faculty need to focus more on neurodivergent students than the other students. (4)

I find that neurodivergent students wait to talk to me until they are not doing well in the class and then I find it hard to believe that they are really neurodivergent. (5)

I find that neurodivergent students wait to talk to me until they are not doing well in the class and then it is too late to provide appropriate academic accommodations. (6)

Page Break

Q29 Please rate your agreement with the following statements.

	Strongly disagree (6)	Somewhat disagree (7)	Neither agree nor disagree (8)	Somewhat agree (9)	Strongly agree (10)
I find that neurodivergent students do not use all of the academic accommodations for which they are eligible, as noted in their accommodations letter. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Students use neurodiversity as an excuse when they are not doing well in my course.

(1)



Neurodivergent students receive the formal academic accommodations needed to meet course learning outcomes and competencies in my class. (5)



Neurodivergent students receive the formal academic accommodations needed to meet course learning outcomes and competencies in my department. (6)



It is obvious to others if a student is neurodivergent, even if they do not disclose their disability.

(7)



Q31 Please rate your agreement with the following statements.

	Strongly disagree (6)	Somewhat disagree (7)	Neither agree nor disagree (8)	Somewhat agree (9)	Strongly agree (10)
It is harder for neurodivergent students to concentrate on lessons. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neurodivergent students are overly sensitive. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that some students are unaware that they are neurodivergent. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some neurodivergent students take advantage of their academic accommodations and may not really need them. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the past, students have asked me for formal academic accommodations without any documentation from the office of Services for Students with Disabilities (SSD). (9)

Page Break

End of Block: Beliefs about Neurodiverse Students

Start of Block: Reactions to Neurodiverse Students

Q32 Reactions to Neurodivergent Students

Q33 Please rate your agreement with the following statements.

	Strongly disagree (6)	Somewhat disagree (7)	Neither agree nor disagree (8)	Somewhat agree (9)	Strongly agree (10)
Other students resent the formal academic accommodations neurodivergent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>students receive. (1)</p>					
<p>Faculty in my department are receptive to putting into place neurodivergent students' formal academic accommodations needed for their class. (3)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>When working with or being around neurodivergent students, I feel anxious or nervous. (4)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Neurodivergent students are seen as having an unfair advantage in taking tests due to their formal academic accommodations. (6)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Neurodivergent students are treated positively by their classmates. (7)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Neurodivergent students are treated positively by</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

faculty in my department. (8)

End of Block: Reactions to Neurodiverse Students

Start of Block: Willingness to Accommodate

Q34 Academic Accommodations

Q35 A "verified student," indicates a student whose psychosocial evaluation has been vetted by the office of Services for Students with Disability (SSD) at BSU, and formal academic accommodations have been approved.

Please rate your agreement with the following statements.

	Strongly disagree (6)	Somewhat disagree (7)	Neither agree nor disagree (8)	Somewhat agree (9)	Strongly agree (10)
I am willing to reduce the overall course reading load for a verified neurodivergent student. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to allow a verified neurodivergent student to complete extra credit assignments. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am willing to allow a verified neurodivergent student to have a note taker or record lectures. (3)

I think it would be appropriate to allow a verified neurodivergent student to substitute an alternative course for a required course. (4)

I am willing to allow a verified neurodivergent student to take proctored exams in a supervised location. (5)

Page Break

Q36 Please rate your agreement with the following statements.

	Strongly disagree (7)	Somewhat disagree (8)	Neither agree nor disagree (9)	Somewhat agree (10)	Strongly agree (11)
I am willing to arrange extended time on milestone or preliminary exams for verified neurodivergent students. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to allow verified neurodivergent students to use technology (e.g. laptop, calculator, spellchecker) to complete exams even when such technologies are not permitted during testing for other students. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to allow verified neurodivergent students to record lectures. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am willing to spend extra time with verified neurodivergent students to clarify and/or review course-related content. (5)

I am willing to provide verified neurodivergent students with electronic or printed copies of my lecture notes, outlines and/or presentations. (6)

Page Break

Q37 Please rate your agreement with the following statements.

Strongly disagree (6)	Somewhat disagree (7)	Neither agree nor disagree (8)	Somewhat agree (9)	Strongly agree (10)
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I am willing to provide verified neurodivergent students with a tour of facilities prior to the start of a laboratory or field work assignment. (1)

I am willing to provide verified neurodivergent students with additional time to complete laboratory, field work or other assignments. (2)

Making adequate teaching accommodations for verified neurodivergent students in my course(s) is unrealistic given time constraints and other demands. (3)

I believe that I create an inclusive learning environment for all of my students, regardless of whether they qualify for academic accommodations or not. (4)



Q38 Do you make a statement in class inviting neurodivergent students to discuss their formal academic accommodations with you?

Yes (2)

No (3)

Q39 Do you include a statement in your course syllabus inviting neurodivergent students to discuss their formal academic accommodations with you?

Yes (1)

No (2)

End of Block: Willingness to Accommodate

Appendix B- Faculty Climate Survey Recruitment Communication to All SGS Faculty

Recruitment Email I: Invitation to Faculty to Complete Climate Survey - Initial Launch- October 25th
SUBJ: 15 Minutes - SGS Faculty Climate Survey

Dear Faculty,

On behalf of the [SGS at BSU], we are contacting you to request your participation in a climate survey about your attitudes, perceptions and behaviors related to neurodivergent graduate and professional students as it relates to your instructional, research or clinical work with this population of students. You may access the survey here.

This *Faculty Climate Survey* was developed in partnership with the SGS as a research component of our doctoral work at Vanderbilt University in the Leadership and Learning in Organizations program. The data from this survey will build upon the information obtained from SGS's fall 2019 survey of graduate students' experiences with the University's formal academic accommodations process.

Should you agree to participate in this survey, your responses will remain anonymous. There are no anticipated risks to participate in this survey beyond those encountered in everyday life.

We will not collect any personally identifiable information, including your email address, and all responses will be securely stored in a Vanderbilt University Box folder specifically designed for the purposes of this survey. The deadline to complete the survey is Wednesday, November 10, at 11:59 p.m.

This project has been approved by the Vanderbilt University Institutional Review Board, IRB #211516. If you should have any questions about this research study, please feel free to contact the principal investigator of this study, Jessica Edonick at jessica.l.edonick@vanderbilt.edu, co-investigator, Caitlin Cochran at caitlin.h.cochran@vanderbilt.edu, or our Faculty Advisor, Michael Neel at michael.a.neel@vanderbilt.edu.

For additional information about giving consent or your rights as a participant in this study, to discuss problems, concerns, and questions, or to offer input, please feel free to contact the Vanderbilt University Institutional Review Board Office at (615) 322-2918 or toll free at (866) 224-8273.

Follow this link to the survey:
Faculty Climate Survey

Many thanks,
Jessica Edonick
Principle Investigator
Vanderbilt University
jessica.l.edonick@vanderbilt.edu

Caitlin Cochran
Co-Investigator
Vanderbilt University
caitlin.h.cochran@vanderbilt.edu

Emails to Faculty from Associate Deans- November 2nd (unless 0 responses by October 28th)
 SUBJ: Neurodivergent Students: Climate Survey for Faculty

Dear Colleagues,

I wanted to follow-up with you regarding the participation of your program faculty in a climate survey which looks at faculty perceptions, experiences and practices in working with and supporting neurodivergent graduate and professional students. You may have seen reference to this survey in [the dean's] October letter. This survey is separate from the university wide Diversity, Equity and Inclusion survey for faculty, staff and students. Your participation in this climate survey around neurodivergent students is incredibly important to our goal of enhancing the learning environments and research practices for our students. The information from this faculty survey builds on what was discovered in the fall 2019 survey of SGS students regarding their ability to gain access for formal disabilities accommodations.

Tying the results of the two surveys together will be a way for us to holistically look at how we create inclusive learning environments and how as researchers, educators and professionals we can support a growing number of neurodivergent individuals participating in our graduate programs. I hope that you will join me in supporting this research by participating in the online survey developed by two doctoral students at Vanderbilt University as part of their dissertation research.

You can access the Faculty Climate Survey here. Your time is incredibly valuable, and I hope you will make the time to take this 15-20 minute survey. The deadline to complete the Climate Survey is Thursday, November 10 at 11:59 p.m.

SGS Newsletter [QR Code for Survey]

Faculty are invited to participate in an online climate survey which focuses on faculty perceptions, experiences and practices in working with and supporting neurodivergent graduate and professional students. This faculty-facing climate survey builds on the information obtained from the fall 2019 survey of students regarding their experience in accessing support for formal disabilities accommodations. The faculty survey is being conducted by two doctoral students from Vanderbilt University as their doctoral capstone research. Your participation in the survey will not only inform our practice, but will also enhance the learning and research environments we provide for our students. The faculty-facing climate survey will take 15-20 minutes to complete and can be accessed by scanning the QR code below. The deadline to complete the Survey is Thursday, November 10 at 11:59 p.m.

Talking Points for SGS Dean's Communication to Faculty

- [BSU's] leadership in Anti-Ableism Academy work also extends to creating a welcoming environment in which our disabled graduate and professional students can effectively participate in learning and become members of their professional community of practice.
- In the fall of 2019 SGS partnered with the Graduate Student with Disability *Needs Assessment* Committee, which consisted of faculty, staff and students, to conduct a survey of graduate student experience with disability accommodations as part of advancing the School's DEI mission.

- To build off the results of this survey, SGS is collaborating with two doctoral students from Vanderbilt University to specifically look at how the educational and research climate at BSU impacts the socialization and learning experiences of neurodivergent graduate and professional students.
- Faculty are a cornerstone of creating learning and professional environments for our students therefore, I am asking for your participation in a climate survey that focuses on faculty's perceptions, experiences and practices with neurodivergent students.

This online climate survey will launch on Monday, October 25th. Your participation in the survey would be greatly appreciated, and will allow for a more comprehensive look at how SGS can work with you to create a more inclusive and thriving learning environment for all of our students.

Appendix C - Faculty Climate Survey Data Results and Analysis

Table 1. Summary of Independent Variables (Full Sample, N=241)

Division	Freq.	Percent	Cum.
Biological & Health Sciences (I)	84	35.90%	35.90%
Physical Sciences & Engineering (II)	37	15.81%	51.71%
Social Sciences (III)	66	28.21%	79.91%
Humanities & the Arts (IV)	47	20.09%	100.00%
Total	234	100.00%	

Rank	Freq.	Percent	Cum.
Professor	110	45.83%	45.83%
Associate	53	22.08%	67.92%
Assistant	45	18.75%	86.67%
Lecturer	21	8.75%	95.42%
Adjunct	11	4.58%	100.00%
Total	240	100.00%	

Gender	Freq.	Percent	Cum.
Female	116	48.13%	48.13%
Male	111	46.06%	94.19%
Other	14	5.81%	100.00%
Total	241	100.00%	

Race	Freq.	Percent	Cum.
White	170	71.73%	71.73%
Asian	15	6.33%	78.06%
Black	12	5.06%	83.12%
Other	40	16.88%	100.00%
Total	241	100.00%	

Identify as Neurodivergent	Freq.	Percent	Cum.
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No	209	86.72%	86.72%
Yes	26	10.79%	97.51%
Prefer not to say	6	2.49%	100.00%
Total	241	100.00%	

Close Contact is Neurodivergent	Freq.	Percent	Cum.
No	89	36.93%	36.93%
Yes	130	53.94%	90.87%
Unsure	22	9.13%	100.00%
Total	241	100.00%	

Table 2. Summary of Independent Variables (Analytic Sample, N=213)

Division	Freq.	Percent	Cum.
Biological & Health Sciences (I)	76	36.71%	36.71%
Physical Sciences & Engineering (II)	36	17.39%	54.11%
Social Sciences (III)	55	26.57%	80.68%
Humanities & the Arts (IV)	40	19.32%	97.18%
Missing	6	2.82%	100.00%
Total	213	100.00%	

Rank	Freq.	Percent	Cum.
Professor	100	46.95%	46.95%
Associate	48	22.54%	69.48%
Assistant	37	17.37%	86.85%
Lecturer	19	8.92%	95.77%
Adjunct	9	4.23%	100.00%
Total	213	100.00%	

Gender	Freq.	Percent	Cum.
Female	99	46.48%	46.48%
Male	103	48.36%	94.84%
Other	11	5.16%	100.00%
Total	213	100.00%	

Race	Freq.	Percent	Cum.
White	155	73.81%	73.81%
Asian	9	4.29%	78.10%
Black	10	4.76%	82.86%
Other	36	17.14%	98.59%
Missing	3	1.41%	100.00%
Total	213	100.00%	

Identify as Neurodivergent	Freq.	Percent	Cum.
No/Prefer not to say	189	88.73%	88.73%
Yes	24	11.27%	100.00%
Total	213	100.00%	

Close Contact is Neurodivergent	Freq.	Percent	Cum.
No/Unsure	97	45.54%	45.54%
Yes	116	54.46%	100.00%
Total	213	100.00%	

Table 3. Four Factor Solution Derived by
Exploratory Factor Analysis

Variable	Factor Loading
Factor a1: Willingness to Devote Resources ($\alpha = .82$)	
<i>I am willing to allow a verified neurodivergent student to take</i>	0.844

<i>proctored exams in a supervised location.</i>	
<i>I am willing to allow a verified neurodivergent student to have a note taker or record lectures.</i>	0.840
<i>I am willing to allow verified neurodivergent students to record lectures.</i>	0.796
<i>I am willing to provide verified neurodivergent students with electronic or printed copies of my lecture notes, outlines and/or presentations.</i>	0.729
<i>I am willing to arrange extended time on milestone or preliminary exams for verified neurodivergent students.</i>	0.673
<i>I am willing to spend extra time with verified neurodivergent students to clarify and/or review course-related content.</i>	0.601

Factor b1: Beliefs about Student Capabilities ($\alpha = .93$)

<i>Neurodivergent students are just as capable of meeting the demands of my academic program compared to other students.</i>	0.975
<i>Neurodivergent students are just as capable of competing academically at the graduate and professional level as other students.</i>	0.943
<i>Neurodivergent students are just as capable of meeting the demands of a job in my field compared to other students.</i>	0.919

Factor a2: Willingness to be Flexible ($\alpha = .73$)

<i>I am willing to allow a verified neurodivergent student to complete extra credit assignments.</i>	0.859
<i>I am willing to reduce the overall course reading load for a verified neurodivergent student.</i>	0.823

I think it would be appropriate to allow a verified neurodivergent student to substitute an alternative course for a required course. 0.772

Factor b2: Beliefs about Student Accommodation Use ($\alpha = .71$)

I find that neurodivergent students wait to talk to me until they are not doing well in the class and then I find it hard to believe that they are really neurodivergent. (Reverse coded) 0.835

I find that neurodivergent students wait to talk to me until they are not doing well in the class and then it is too late to provide appropriate academic accommodations. (Reverse coded) 0.798

Students use neurodiversity as an excuse when they are not doing well in my course. (Reverse coded) 0.615

Table 4. Correlations between Familiarity/Training in Universal Design and the Four Factors

	Familiarity with UD	Training in UD	Factor b1	Factor b2	Factor a1	Factor a2
Familiarity with UD	1.0000					
Training in UD	0.4026	1.0000				
Factor b1	0.0000	0.2590	1.0000			
Factor b2	0.0001	0.0890		1.0000		
Factor a1					1.0000	
Factor a2						1.0000

Factor b2	0.3213	0.1905	0.3070	1.0000		
	0.0000	0.0054	0.0000			
Factor a1	0.1631	0.1520	0.2933	0.2800	1.0000	
	0.0174	0.0269	0.0000	0.0000		
Factor a2	0.2164	0.0983	0.2543	0.2210	0.4383	1.0000
	0.0015	0.1538	0.0002	0.0012	0	

Table 5. Analysis of Multiple Regression

Model b1: Predicting Beliefs about Student Capabilities

	<i>B</i>	<i>SE</i>	β	<i>p</i>
Close Contact is Neurodivergent				
No	(reference)			
Yes	0.17	0.14	.09	.234
Familiarity with UD	0.13	0.06	.18	.030
Training in UD	0.05	0.09	.04	.582
<i>R</i> ²	.127			

Adjusted R^2 .056

Model b2: Predicting Beliefs about Student Accommodations Use

	<i>B</i>	<i>SE</i>	β	<i>p</i>
Close Contact is Neurodivergent				
No	(reference)			
Yes	0.70	0.13	.36	.000
Familiarity with UD				
	0.12	0.05	.16	.033
Training in UD				
	0.17	0.08	.15	.035
R^2 .294				
Adjusted R^2 .236				

Model a1: Predicting Willingness to Devote Resources

	<i>B</i>	<i>SE</i>	β	<i>p</i>
Close Contact is Neurodivergent				
No	(reference)			
Yes	0.46	0.14	.23	.002

Familiarity with UD	0.05	0.06	.07	.410
Training in UD	0.19	0.09	.16	.041
<hr/>				
<i>R</i> ²	.159			
Adjusted <i>R</i> ²	.090			
<hr/>				

Model a2: Willingness to be Flexible

		<i>B</i>	<i>SE</i>	β	<i>p</i>
<hr/>					
Close Contact is Neurodivergent					
	No	(reference)			
	Yes	0.43	0.14	.22	.002
Familiarity with UD		0.08	0.06	.11	.167
Training in UD		0.02	0.09	.02	.775
<hr/>					
<i>R</i> ²		.22			
Adjusted <i>R</i> ²		.16			
<hr/>					

Appendix D- Faculty Focus Group Interview Protocol and Questions

Introductory Script:

Hello, My name is Jessica Edonick and I am a doctoral student at Vanderbilt University in the Leadership and Learning in Organizations program. With me today is my research partner, Caitlin Cochran, who will be taking notes.

[Introductions]

So that we know who is in the room, we wanted to do some additional introductions. If you would, please share your name and department please?

I am now going to read through some information about our study, review some terminology so we are all on the same page, and go over the consent information for this focus group.

For our doctoral capstone, we have the honor of working with the SGS to better understand how neurodivergent graduate and professional students experience their learning environments which include the classroom, labs, clinicals, studios, as well as relationships with their peers, faculty and overall departments. In the fall of 2019, and as part of their strategic plan, SGS conducted a *Needs Assessment* of disabled graduate and professional students. The results of the *Needs Assessment* drew attention to how disabled graduate and professional students navigate academic accommodations, participated or did not participate in learning within their department, and how they experienced the climate of their department.

Discuss Definition of Neurodivergence here:

We know based on a growing body of literature that close to 30% of undergraduate students are neurodivergent (Conditt, 2020). However, there is a gap in the literature and research in understanding how neurodiversity is experienced at the graduate and professional level (Lizotte & Simplican, 2017; and BSU Disability Executive Summary, 2020). We are specifically exploring how neurodivergent graduate and professional students are socialized into their community of practice. Socialization refers to the process whereby a student transforms into a scholar or professional within their academic field.

In addition, for the aims of our study, “neurodiversity” is an umbrella term used to characterize sensory differences in individuals. Neurodivergent individuals may display language difficulties, communication challenges, or difficulty modulating their activity and/or attention. In addition, neurodivergent individuals may also display heightened abilities to focus on small details within complex patterns, superior artistic skills, and higher-than-average entrepreneurial skills. Medically, and for the purposes of receiving disability accommodations, neurodivergent individuals can typically be diagnosed with any one, or combination of any of the following: attention deficit hyperactivity disorder, autism spectrum disorder, dyslexia, dyspraxia and dyscalculia.

As faculty, you are key to the support, development, and socialization of graduate and professional students into your community of practice. We know from the students themselves in the 2019 *Needs Assessment* as well as pertinent literature and research, that the rapport you build with your graduate and professional students is critical to their success. We also know from research and literature that how graduate and professional students experience the climate of their department is another major factor in their success as a student, and what that success looks like in each department, depends on the culture of that field. Therefore, it is important that we learn from you, as a faculty member who is deeply invested in seeing their students succeed academically and professionally, about how you work with neurodivergent graduate and professional students.

Consent:

Before we proceed, we wanted to collect your consent for participating in this interview. In your email we sent you the consent form for this interview. Please review the form, and please let us know if you have any questions. This interview will not be recorded, but transcribed for the purposes of this capstone project and not shared with anyone beyond our research team, which consists of myself and one other doctoral student, and our faculty advisor. Your individual identity will be kept confidential; however, the characteristics of your department and your role at the university will be shared. Also, we ask that you also keep what is said in this space confidential and do not share with your colleagues.

We encourage you to participate often and share information as you are comfortable; we appreciate your candor and vulnerability in this space, and if you feel you need to leave at any time, please feel free to do so.

If you consent to participating in this focus group given the mentioned conditions and parameters, please indicate by verbally saying “yes.”

Caitlin and I have 5-6 questions we would like to discuss with you. Before answering, if you could please state your name, we would greatly appreciate it.

1. First, we wanted to get a sense of your experience working with neurodivergent students. What opportunities have you had to learn how to support neurodivergent students at BSU or another educational institution?

Intersectionality of identity - what would you like it to look like?

2. Beyond your experiences working with neurodivergent students, what opportunities have you had to learn about Universal Design?

What information might be helpful. What makes a program a problem? What leads you to say that we are so far away from learning about UD? Equity focused

3. These next few questions relate to climate and the community of practice your students experience on a daily basis. What terminology or language do you use in your department and/or field of study and/or profession around neurodivergent students?

Thank you for sharing this thought. Students who participated in follow up focus groups noted that they can feel fear around disclosing their disability to faculty as they may be seen differently, made to feel that they are getting special treatment for their accommodations, or that they will not get access to professional opportunities like their peers. One comment, for example, was, “It’s embarrassing to have to volunteer information about yourself when such accommodations aren’t outwardly offered. It makes it feel like you are asking for favors that other students don’t get so you should suck it up and deal with it like everyone has to with their ‘personal issues.’”

4. What are your thoughts on this student’s statement regarding their experience of the climate?
5. What are your perceptions of the value the University, and even from a more micro level, your department, places on designing and facilitating learning environments that are inclusive of neurodivergent individuals?

6. What has your experience with the university's accommodations process been like? For instance, can you describe how you typically learn that a student is neurodivergent and needs accommodations?

That is my last question for today. I want to thank you for your time and thoughtful responses. This is incredibly helpful information as we study the accommodations process and overall climate at SGS.

We plan to complete data collection next week, and will be delivering results and recommendations to SGS leaders in July 2022.

If I have any follow up questions, would you mind if I reach out to you via email.

Appendix E: Faculty Focus Group Codebook

CATAGOEIES	CODES	SUBCODES	SAMPLE QUOTE
<p>Inputs - Self-Narratives and experiences prior to graduate education, anticipating what graduate education will be and who they will become</p>	<p>Exposure- refers to one's exposure or contact with neurodivergent individuals or self-identification as neurodivergent</p>	Identify as neurodivergent	<p>"I have been trained only in that I'm dyslexic myself and one of my sons is severely dyslexic. So I've had to go through kind of Gordon Willingham, kind of learning modules for how to work through reading and things like that, but not in the academic space. There's there's been no training." (March 11, p. 4)</p>
		Contact is neurodivergent	<p>"I am also the parent of a child on the spectrum. And boy that's a learning experience and, and it has really, he's 22 now and is in college, but it's, it definitely colors how I deal with teaching... He is at a point where he's had IEPs over the years that have been sources of endless frustration, even where there were you know, maybe three people over his education, who I would say I had positive experiences with, I have many more of those icky war stories about like, well, you were destroyed. But with students, I take, I also have a museum background, and I think a lot about universal design issues. And I feel like that is a way of cutting across some of these administrative components." (March 11, p. 8).</p>
		Prior experience	<p>"I've been hammering away at this issue since I got to this campus 12 years ago. And I should say the frustration that I'm about to- that I have already vented to [SGS] and to the head of the Office of the SSD. I have- I've just- I-when I got here I was appalled at the paltry support there is for faculty dealing with neurodivergent students and what was available for the students themselves. And I think I wouldn't have thought anything of it if I hadn't previously been at an institution with a much more robust setup." (March 10, p. 8)</p>
		Awareness	<p>"I've heard the term [Universal Design], I have no idea really what it is even when somebody tried to explain it." (March 10, p. 7).</p>
		Access to	<p>"The [SGS] has started to design and workshop on a new number of different things including Universal Design on part as a small part of their workshop. (March 10, p. 8)</p>
		Language	<p>"How do we bring some equitable practices so that we can help our faculty learn even regardless of where, what level they might be, to learn how to teach the student that they have in front of them? Because we have not had the words to do that." (March 10, p. 11).</p>
		Universal design	<p>"I have participated in a Universal Design training that was designed for the school of social work back in 2021, but it only touched on working with neurodivergent folks specifically. I also support a PhD student who focuses on supporting transition aged autistic youth, and so I've learned a lot from her work as well. I will say I am frustrated about how little supporting neurodivergent students (and disabled students in general) is covered at UM." (Email from SK, 3-23-22). "I'm googling it" (March 10, p. 7)</p>
		Teaching support	<p>"I don't think there's been a larger conversation about teaching and universal design and delivery of our content." (March 10, p. 10). "At [BSU] we have a wonderful unit called the CRLT...with the great work they have done on other issues, like on race in the classroom....they could be more of a think tank of some kind to how to address this problem on a more systematic level." (March 10, p. 12). "Our School of Public Health has a fantastic teaching support team, led by several folks with expertise in curriculum and teaching design and we have offered and attended some of the workshops and different seminars of which one of the topics covered was universal design." (March 11, p. 5).</p>

CATAGOEIES	CODES	SUBCODES	SAMPLE QUOTE
Exposure- refers to one's exposure or contact with neurodivergent University/Department/Field of Study Climate- refers to climate influenced/created by faculty stemming from field and university or self-identification as neurodivergent		Values	"But I think, my view is the prestige that the university is seeking come nearly 100% from research, and research is everything here...a strong research portfolio, whether that's publications or books, grants, all those are the things at least that I see that get people tenure on through the system." (March 10, p. 14).
		Priorities	"I think my department tries to actually honor the service [for tenure] and not just leadership, but of course, we're limited because we're within a system that really prioritizes the research and so what that means, is that the thinking about how to deal with say this particular issue neurodivergent graduate students, falls to the people who do most of the service, who are viewed as lower status than the people who do all the research and it isn't coincidence that the greatest, deepest bias against neurodivergent students comes from my colleagues who are most prized for their research." (March 10, p. 15).
		Leadership	"The university really wants to be a leader among sort of the brightest and the best and to compete with Ivy League and other sort of enrollment institutions. Departments tend to be much more open towards students and really care about who's here that you know the boots on the ground. But the leadership of the university seems to care very little about well being or students and more about sort of a prestigious reputation." (March 10, p. 14).
		Resistance to change	"But the within our department that culture is so strongly oriented toward just that one direction and we have a kind of an internal apartheid within [department] where you know, the really good people become academics and then the second rate people become applied [practitioners], which is another kind of really, you know, unfortunate sort of logic within our discipline. And so, then, and, you know, that's complete. I'm one of about two or three people in the entire department who would even think it was worthwhile challenging that set of assumptions." (March 14, p. 10)
		Tension	"I will say that one thing that constantly comes up whenever conversation is about accommodations or things like that is that any kind of movement toward accommodations or standards that would be more universally equitable, are met with academic rigor as the standard that is, that should be met and I have no idea what that means." (March 10, p. 10).
		Compliance	when talking about the accommodations process and neurodivergent students, "But when I think about it, this perhaps is a little surprising that given the extent of the problem, because this is actually growing exponentially in the last few years, and I guess one could hope that there will be a little more than that and there will be a little more again, training for the information that the faculty between the administration and the teaching body so that perhaps we can go beyond simply administering those accommodations and maybe take a more holistic approach." (March 10, p. 17).
DEI- refers to diversity, equity and inclusion efforts at the university Environment- culture of the environments where learning takes place.		Community	"a great deal of my graduate students are experiencing impostor syndrome. That is the thing they speak about the most, and I think that affects everything. The way they need to connect with the university. The way they hide some of their weaknesses. I think because that one has a major weakness, and they don't want to expose any more weaknesses...because they feel very weak, the feel very disjointed, it's even harder for them to make community with other students." (March 10, p. 16).
		Agency	"And one of the problems that I see is that when a student, you know, brings an accommodation letter. It's really only one usually one other one person, maybe one staff person in my experience who will see that for the graduate student, and it's not something we tend to discuss at our graduate student review, so other faculty may just think that the student is not doing, you know, not performing in a certain way in their class, they have no context or background for how, what the student might be struggling with and I think that's a really delicate issue because not all students are going to want them information to be announced, you know, in a meeting where they're not present and maybe discussed in a way that they don't have any control over." (March 14, p. 10).
		Bias	"I still feel that [SSG] does not appreciate the level of bias in our colleagues. I mean they are perfectly well meaning people but they don't know they haven't been educated and we can talk about changing the way we do things, but until we've confronted the fundamental bias in the way faculty members think about students with learning disabilities, we're just making the changes." (March 10, p. 9).
		Influence and capacity	"Which to me more and more suggests that this is a problem that requires a systematic take is not something that I think that can be addressed on a piecemeal fashion. I think you know individuals departments or individual faculty member can make some marginal improvements, you know, maybe able to conquer the trust of the students, and you know, and make them feel that they are indeed part of the potential [solution]." (March 10, p. 12). "this is where our struggle has been in interfacing with SSD and the ADA Coordinator at the Office of Institutional Equity, when a lot of students don't have a diagnosis and sometimes those diagnoses are very expensive. To get and the university doesn't provide resources to get those diagnoses done. I mean, in that frame, 1000 to \$1,500, right for outside places to give that diagnosis and they don't have the resources for that." (March 11, p. 7)
		Flexibility	"But I do sense that faculty find it burdensome to manage accommodations even though it's managed centrally. I have to get this extra test and I have to do it this way, and I have to do it that way..." (March 10, p. 10)
		Rethinking space	"one of the things you were just talking about, is, is shows up in my experience of working with neurodivergent students, which is that difficulty in one area is balanced by enormous strength in in others and so no often had students who had a lot of trouble with a deadline. You know, could write you know, 100 pages. You know, once they got going and had the pressure taken off work could display their knowledge of language, say in one format, if they felt comfortable and relaxed or it was more oral versus something that was written in you're alone and walked into a room by yourself. And so I don't know that there's something that sort of inhibits somebody, I mean, I think there's like a lot of room to re imagine the ways in which we are asking people to do things and what things we are at what ways we're asking them to demonstrate knowledge." (March 14, p. 9)
Social model- refers to social model of disability and attempts to adjust the environment to individuals rather than individuals adapting to environment		Rethinking learning	"If we are training people to be scholars, our sense is that they need that skill. So then how accommodating can we be around those skills for a graduate student?... So I'm just kind of struggling with where that lies and how demanding you are. And I'm just, I don't have an answer clearly, but I must have dissonance around it. So that the accommodation doesn't preclude the skills that they do need to be a scholar and scientist as they move into their lives, and then that makes me think so then does a scholar look different than what we've traditionally defined. And heavens, are we open to that? Probably not to be honest" (March 10, p. 13). "...because in my experience was [that] those students that have disabilities, they don't have any disability, they just have a different way of learning and being assessed and my experience has been great with them." (March 11, p. 4).
		Accommodations	"When we get memos about a student needing an accommodation, it doesn't, it doesn't really provide much information about it. It's often a form with something ticked off like please give them more time. This if, if this is anticipating a more direct question, about this later about that office, but particularly during COVID it's been even hard to reach people in the office to try to get elaboration on how to accommodate people, particularly at the graduate level. The standard accommodations for undergrads don't always apply let's say when you're supervising a dissertation." (March 14, p. 4)
		Communication	"I am it's a bit of a mystery and again that I can't even tell you where that office is located on campus where a huge campus Architecture and Planning is on north campus where engineering and music and art is and so it would be several miles if I sought out and began my efforts last year when I had questions to call we just got voicemail because everyone was working from home. So calls were not returned so I felt like a very disembodied process. And when I tried to contact the office to ask about that protocol, and no one returned my call." (March 14, p. 4-5)
		Accountability	"You can still get accommodations and there's the SSD doesn't appreciate that but ADA coordinator does and it's it's been difficult to get these offices to agree on how do we roll out accommodations and kind of be an accountability partner with our mentors and our educators, right, to make sure that they are giving those accommodations when there's not a diagnosis and some form that can be sent from those offices to the faculty." (March 11, p. 7-8)

CATAGOEIES	CODES	SUBCODES	SAMPLE QUOTE
Outcomes- where the student is committing to the profession and affirm identity in the field		Participation	"I think that in our program, students work very intensively with one advisor usually, and the advisors are generally very committed to the students, which is good, but they often have very different mentoring styles. And some are, prefer to be much more hands off and with sort of an attitude of Come to me when you'd have something to show to me, you know, a dissertation chapter, for example." (March 11, p. 10)
		Community of practice	"I wanted to say in response to it was something about, you know, the longer I've been teaching, the more I've become comfortable with thinking about the fact that not everybody in the world should become a professor. And, you know, we're like a top two top three department in the country and we have 70% placement of our students and tenure track jobs. And so that becomes the default right? That becomes the assumption that we're training a bunch of professors who are going to go teach in peer institutions in top departments and shape the field. That's, you know, already incredibly high pressure right to the point of being disabling for some people who weren't neurotypical. And, um, not everybody needs to do that and not everybody should do that." (March 14, p. 10)
		Affiliation with field	"And maybe it's an assumption that well, if we're to I'm just making this up, but if but if we're to soften them here, once they hit the job market and the refereed journal articles scene and all that they're going to get slammed and they won't know what hit them. And so it's almost like that puts a kind of limit on the accommodations we're willing to make." (March 14, p. 8)
		Completing degree	"And I think an area where we've run into a lot of problems is not so much with classes or not just with classes but with exams. Because we're still a very heavy exam based kind of program. And so we're not very inventive. We don't have a lot of ideas about other ways to help our students meet the kinds of expectations that are built into those exams. And so I become aware of that recently because of one or two students. But when I think back to students, we used to have students who'd fail the same exam multiple times, and then they would just leave with a feeling can't imagine how other
		Desire to learn	"So I'm learning more about this, but it's because I'm seeing so much of this that I feel I need to know" (March 10, p. 7)
		Barrier to learn	"I have not worked with any students who have been officially diagnosed with any neurodivergences. I have had a number of students who have indicated that they struggle with things that that would be symptomatic of some of these newer neurodivergent challenges. And there are some who suspect themselves of having some of these challenges but have not gone through the process of actually being diagnosed." (March 10, p. 6) "I'm [in this focus group], and I'm learning a great deal of information but it's essentially out of personal initiative or responsibility" (March 10, p. 13).