The Collaborative Autism Support Program at Brooklyn College:
A Formative Program Evaluation

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Abstract

In the last decade, postsecondary institutions have seen a tremendous increase in the enrollment of students with autism spectrum disorder (ASD). As a result, in 2012, Brooklyn College (BC), a large public college in an urban setting serving 17,000 students, created the Collaborative Autism Support Program (CASP). The program has a structured interdisciplinary approach designed to provide academic and social supports to students with ASD, while increasing the awareness of their needs across the college campus. CASP provides services through six different service departments, a graduate student mentor component, and in-service training for faculty, administrators, and staff. This qualitative formative program evaluation examined this relatively newly formed interdisciplinary collaborative support service program to assess if the program is meeting its goals mid-cycle and make recommendations for improvements to aid with the development of the program. Historical program documentation, observations, and interviews with 13 faculty, staff, and program participants informed the results of this study. Through significant collaboration and coordination, CASP successfully utilizes existing resources to improve the social and academic experiences of its participants. CASP program participants found the mentor program to be an invaluable component that aided in the development of social skills, provided emotional support, and improved executive function skills. One suggested improvement for CASP was to enhance efforts to increase campus awareness by forming relationships with academic and administrative offices, partnering with the student advocacy group for individuals with disabilities, and developing a website.

Keywords: Autism Spectrum Disorder, Asperger’s Syndrome, Higher Education, Program Evaluation, Program Standards
Dedication

To My Beautiful Son, Aiden

Your smile has given me the courage to embark on journeys I once believed impossible.

Through your eyes, I get to view this world in a unique and wonderful perspective.

I love you more than words will ever convey.
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First and foremost, I would like to thank God for giving me the spiritual strength, knowledge, and understanding to complete this exceptional journey. Without Him and the amazing blessings he has bestowed upon me, I could not have finished this process.

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Chapter 1: Statement of the Problem

Overview

The enactments of the Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act, and the Americans with Disabilities Act (ADA) have all increased access to college education for students with disabilities. IDEA is a federal law that mandates that K-12 schools identify students with special needs and ensure that they receive appropriate services. Additionally, IDEA stipulates that transition plans from secondary to postsecondary options are developed as part of the Individual Education Plan (IEP) for students with disabilities. This initiative paved the way for students who previously had limited postsecondary options or preparation to enter college or the workforce. Ultimately, this has resulted in an increase of enrollment for students with disabilities in postsecondary institutions (Rothstein, 2012).

While Section 504 and ADA laws ensure that the doors of colleges around the nation are open to students with disabilities, they have provided little guidance to higher education administrators and professionals working with these populations. Professionals working to support college students with disabilities have relied largely on guidance from case law, research, and best practices established by professional associations such as the Association on Higher Education and Disability (AHEAD) (Shaw & Dukes, 2001).

The passage of the ADA along with an increase in the diagnosis of children with autism has resulted in an increase in enrollment of students with autism in postsecondary settings and an additional challenge for disability service professionals working in higher education. While this surge in enrollment requires colleges and universities to identify supports for this relatively new population, supporting students on the spectrum is vastly different from assisting other students.
with disabilities. Autism is a broad spectrum of disorders with varying development, intellectual, and social impairments. The abilities and needs of students on the spectrum are distinct to each individual.

Students with high-functioning autism or Asperger’s have the intellectual ability to attend college but require various social and adaptive supports to successfully navigate college (Wagner, Newman, Cameto, Garza, & Levine, 2005; Adreon & Durocher, 2007). Programming for this college students with autism spectrum disorder (ASD) needs to be individualized and requires collaboration from several student service departments to meet the unique needs of this population. This highly individualized and interdisciplinary approach to programming is being adopted by colleges and universities across the country. For example, in the last few years, the tri-state area has seen the development of programs for students on the spectrum at Farleigh Dickinson, Adelphi University, Pace University, Rutgers, and several City University of New York (CUNY) institutions (Walters, 2014). Countless not-for-profit agencies and advocates are calling for similar programs to be developed at all higher education institutions. In the meantime, existing programs will be identified as a model to implementing an individualized and collaborative approach to serving this unique population.

In conversations with the faculty and staff at Brooklyn College’s Center for Student Disability Services, it is apparent that students with ASD face several obstacles to attaining a postsecondary education. Students with ASD need additional supports to help them meet their academic goals and improve their social skills. Professionals in the Center for Student Disability Services have observed a need to improve the awareness of ASD on the college campus. Faculty and staff members at Brooklyn College frequently reach out to the Center for Student Disability Services for information on how to provide services and accommodations to students with ASD.
As a result, Brooklyn College applied for a grant to develop a collaborative, multi-service program to enrich the experiences of students with autism spectrum conditions. This program provides students on the spectrum with several services to help them meet their full potential for academic success. Ideally, these additional services will support students on the spectrum as they pursue a college degree at Brooklyn College.

**Problem Statement**

With the prevalence of ASD, there has been a surge in the enrollment of students with autism in postsecondary education institutions. In the last decade, there has been a significant increase in the prevalence of ASD reported in the United States. According to the Center of Disease Control and Prevention (2012), approximately 1 in 68 children were diagnosed in 2010, up from 1 in 150 children in 2000 ([www.cdc.gov](http://www.cdc.gov)). The American Psychological Association (APA) defines autism as a developmental disability that impairs social and academic functioning ([www.apa.org](http://www.apa.org)). Individuals with ASD have difficulty with verbal and nonverbal interaction, and executive functions such as planning and organization, which are required skills in the college environment ([www.autismspeaks.org](http://www.autismspeaks.org)). While there is no known cure for ASD, treatment and appropriate supports can improve the social and educational outcomes of this population ([www.autismspeaks.org](http://www.autismspeaks.org)).

According to Wagner, Newman, Cameto, Garza, and Levine (2005), students with autism are more likely than any other disability category to attend postsecondary schools. Approximately 46% percent of students with disabilities attending postsecondary institutions are diagnosed with autism (Wagner, Newman, Cameto, Garza, & Levine, 2005). Federal laws such as IDEA protect students with disabilities in the public K-12 school setting; however, these laws do not go beyond high school. In postsecondary education, Section 504 of the Rehabilitation Act
of 1973 and the Americans with Disabilities Act (ADA) protect students from discrimination and ensure that they receive reasonable accommodations. Unlike the K-12 setting, higher education institutions are not responsible for identifying students with disabilities and making sure that they receive appropriate services. In postsecondary institutions, students must self-identify and communicate their needs to receive accommodations protected under ADA (Adreon & Durocher, 2007). This difference has a tremendous impact on students with autism transitioning to college because they often lack the social skills required to communicate their need to receive reasonable accommodations (Adreon & Durocher, 2007; Hendricks & Wehman, 2009). Students with high-functioning ASD have the potential to attain a college degree but they need additional supports to achieve this goal (Adreon & Durocher, 2007).

The delivery of accommodations to students with disabilities is essential to degree attainment (Vogel & Adelman, 1992); however, providing this support to students with an “invisible” disability like autism can be complicated (Smith, 2007). Individuals with physical disabilities such as a mobility, hearing, or visual impairment generally receive accommodations provided from a “menu of services” associated with their physical disabilities. The accommodations provided address deficits in physical function to allow students to meet their full potential (Kurth & Mellard, 2006). For example, a student with a documented hearing impairment can receive accommodations such as a detailed syllabus, lecture outline, visual technology, assignments provided in written format, a note-taker, and additional time on examinations. However, providing accommodations to individuals with “hidden” disabilities, or impairments that cannot be seen, can be very challenging because it is not as evident or straightforward to identify the supports they need. The accommodations and supports required for college students with ASD are much more challenging since they need to address deficits in
social, adaptive, and/or cognitive functional areas. The general accommodations from the “menu of services” do not address the social, academic, and adaptive impairments prevalent with individuals on the spectrum (Wolf, Brown, & Bork; 2009).

Furthermore, the unique needs of students on the spectrum require individualized supports and accommodations that may be difficult for institutions to provide with limited resources and funding (Longtin, 2014; Wolf, Brown, & Bork, 2009). The varying social, academic, and developmental impairments exhibited by individuals on the autism spectrum means that the delivery of services can be complicated. The abilities and needs of students on the spectrum are distinct to each individual and require customized supports and accommodations. The higher the level of customization, the higher the demand for resources and funding for services and supports from the institution.

Some of the major barriers experienced by students with ASD in postsecondary institutions are access to support services, social interaction, the ability to self-advocate for accommodations, and campus awareness (Adreon & Durocher, 2007; Garrison-Wade, 2012; Getzel & Thoma, 2008 Camarena & Sarigiani, 2009). The literature identifies universal design programs, person-centered planning (PCP), mentoring, educational coaching, career planning, and holistic collaborative approaches as successful supports to college students on the spectrum (Hart, Grigal, & Weir, 2010; Ackles, Fields, & Skinner, 2013; MacLeod & Green, 2009). While these studies have identified approaches to serve this population, few studies have examined the effectiveness of programs designed to improve the educational outcomes of students with autism enrolled at postsecondary institutions (Barnhill, 2014). This research proposes to further understand the effectiveness of a program utilizing the collaborative, interdisciplinary support
service approach identified in the literature for students on the autism spectrum at Brooklyn College.

The gap in the research on programming for college students with ASD requires a formal program evaluation to understand how the services and supports identified for this population can effectively improve their educational and social outcomes. The core function of a program evaluation is to help understand what programs do (Weiss, 1998; Rossi, Lipsey, & Freeman, 2007). According to Weiss (1998), program evaluation allows researchers to associate particular elements or features of a program with intended or identified outcomes. In this case, the individualized services and interventions identified by the program under examination will be evaluated as they attempt to attain their goal of supporting college students on the spectrum.

The Program

Resources and Education on Autism as CUNY’s Hallmark (REACH). CUNY is the third largest university system in the United States, with over 500,000 students. The system includes 24 institutions, including 11 senior colleges. CUNY’s mission is to provide an affordable, quality education to all students, including nontraditional populations like students on the autism spectrum (www.cuny.edu). Project REACH is developed at City University of New York (CUNY) to serve the growing population of college students on the autism spectrum disorders and increase campus awareness of the needs and experiences of this population (www.cuny.edu). In 2011, CUNY developed Project REACH out of a need to investigate, research, and identify academic and social accommodations to best serve a growing population of students with disabilities at the University (Pollich, Carr, & Schiavone, 2013). CUNY estimated that there are at least 1,000 students with ASD at the institutions, and they want to ensure that supports are in place to help them attain college degrees and pursue careers (Pollich
et al., 2013). REACH was initiated by the CUNY Central Office of Student Affairs University assistant dean and the CUNY Central Office of Health Services University dean, in collaboration with an emeritus professor. Project REACH’s goals are the following “(1) to increase the quality and quantity of supports to students with ASD, and (2) to improve the quality of the college experience and degree attainment for students with ASD” (www.cuny.edu/disabilities/ASDandProjectREACH/aboutprogram.html).

**Funding.** Project REACH is funded by the FAR Fund: a private, New York based, grant-making fund supporting institutions working “toward far-reaching goals in their efforts to support the social and emotional well-being of the people they serve” (www.farfund.org). FAR Fund specifically focuses on organizations working to improve the experiences of individuals with developmental disabilities. Grants submitted to the FAR Fund must include the following information:

- Background of the organization
- Exact legal name of 501(c)3
- Project title
- Brief proposal abstract up to 150 words for the website
- Project description plan for project evaluation
- Sustainability of the project beyond grant period
- Case summaries
- Project staff
- Project budget
- Other committed or solicited funding sources

In addition to the multi-year grant for the FAR Fund that serves as the main source of funding, supplemental funding was provided by the CUNY Central Office of Student Affairs and by the University Central Office of Health and Human Services. The $100,000 grant allows the project to provide services at no additional cost to students. This is in contrast to similar programs developed at other colleges and universities around the country. Generally, similar programs in
the Northeast area can cost students and families anywhere from $2,600 to $8,000 in addition to tuition.

During its second year of funding, project REACH developed an RFP opened to all 24 campuses and student organizations for mini-grants to expand REACH onto individual campuses. Four campus proposals distinguished themselves through their potential to impact access to opportunities for CUNY students on the spectrum (REACH Coordinator, email correspondence, December 30, 2015). Project REACH has supported the development of programming for students with ASD on the following CUNY campuses: the Transitioning to College Support (TCS) at Kingsborough Community College (KBCC), the Building Bridges Initiative (BBI) at the College of Staten Island (CSI), Project PASS at Borough of Manhattan Community College (BMCC), and Collaborative Autism Support Program (CASP) at Brooklyn College (BC).

**Collaborative Autism Support Program (CASP) at Brooklyn College.** In 2012, Brooklyn College (BC) created the Collaborative Autism Support Program (CASP) as part of the Resources and Education on Autism as CUNY’s Hallmark (REACH) initiative aimed at improving awareness of ASDs and support services throughout the public university system. CASP is a structured interdisciplinary program designed to provide academic and social supports to students with ASD and increase the awareness of their needs across the college campus. The original pilot project for CASP was called “Interdisciplinary Collaborative Support Services” for Students with Autism Spectrum Disorders at Brooklyn College (Project REACH at Brooklyn College). The pilot was funded at $18,968 with the goal of “promoting the academic and social success of students on the spectrum” (Project REACH coordinator, email correspondence, December 30, 2015). The program aims to accomplish this goal by
1. Providing nontraditional type of accommodations through the establishment of an ongoing collaborative system of support which will include tutoring, mentoring, social-skills training, individualized career counseling, individualized comprehensive outpatient medical services, mental health counseling and referral.

2. Educating and training graduate students who serve as mentors.

3. In-service training for faculty, students, and administrators (email correspondence).

CASP provides services through several student service departments: (1) The Center for Student Disability Services, (2) Brooklyn College Health Clinic, (3) Personal Counseling, (4) Speech Language Pathology Department, (5) The Learning Center, (6) Magner Center for Career Development and Internships, and (7) the Special Education, School Psychology, and Mental Health Counseling academic departments. Clinical and other support services are provided based on an individual assessment administered by the program’s coordinator.

Project REACH at Brooklyn College plans on expanding the CASP program beyond the original initiatives in order to further improve the awareness and understanding of ASD. The program also seeks to improve the overall quality of the experience and promote career readiness for students on the spectrum. CASP began in the spring of 2012, by the spring of 2014, the program had evolved to include the creation of individual support plans for students, and opportunities for students to interact in group activities, such as attending the Asperger Syndrome and High Functioning Association (AHA) conference, pizza parties, yoga workshops, and scheduled lunches.
In the spring of 2012, the total number of ASD-identified students receiving CASP services increased by 45%. As of academic year 2013-2014, there were 15 students with autism receiving supports services through CASP. The program anticipates additional growth with increased awareness and promotion (Director of Center for Student Disabilities Services, personal communication, October 9, 2015).

**Program Evaluation**

In order to examine CASP’s ability to reach its goal of supporting college students on the autism spectrum, this research employed a formative program evaluation. According to Weiss (1998), program evaluation allows researchers to associate particular elements or features of a program with intended or identified outcomes. Formative evaluation was selected over summative evaluation because the program was in an early phase and the focus was on developing the program instead of solely examining the effectiveness of the program. The goal of formative program evaluation is to provide program administrators and staff with the feedback required to improve programming at strategic points in the implementation of the initiative. According to Scriven (1991), “when the cook tastes the soup, that’s formative evaluation; when the guest tastes it, that’s summative evaluation” (p. 19).

This program examination utilized the program standards for disability services in higher education developed by Shaw and Dukes (2001) and approved by AHEAD. The program standards are a research-based guide for disability service professionals to ensure that services and supports are in place to increase “equal educational access for postsecondary students with disabilities” (Shaw & Dukes, 2001). While programming for college students with ASD is unique from other supports for students with disabilities, it is important to have a guideline to evaluate CASP. There are 27 program standards across nine categories, required for appropriate
support for individuals with disabilities. The standards assist with the selection and consistency of services across postsecondary institutions.

**Purpose Statement**

The purpose of this research study was to evaluate a newly formed interdisciplinary collaborative support service program serving college students with autism at a four-year public college in the Northeast region of the United States. This formative program evaluation collected information about the activities and characteristics of CASP to assess if the program is meeting its goals mid-cycle and make recommendations for improvements to aid with developing the program.

**Research Questions**

1. How does the interdisciplinary Collaborative Autism Support Program at Brooklyn College serve college students with autism spectrum disorder?
   a. How do the services and interventions provided by the program’s six student service departments align with intended educational and social outcomes for students?
   b. What are the experiences of students with Autism Spectrum Disorder participating in the Collaborative Autism Support Program at Brooklyn College?
   c. How does the training of graduate student mentors meet the intended program goal of increasing social skills and adapting to the college environment for students on the spectrum?
   d. How does in-service training for faculty, students, and administrators align with the program’s outcome to increase campus awareness of the needs of individuals with autism spectrum disorder?
2. How does the Collaborative Autism Support Program align with Association of Higher Education and Disability’s program standards?

3. How can the Collaborative Autism Support Program be improved?

**Theoretical Framework**

A theory-driven program evaluation perspective, also known as program theory, will be the framework guiding this investigation. Program theory provides a conceptual framework for examining the development, implementation, and interpretation of this multidisciplinary program as it attempts to meet the various needs of college students on the spectrum. According to Anfara and Mertz (2006), the framework of a study “affects every aspect of the study, from determining how to frame the purpose and problem, to what to look at and for” (p. 14). This section will describe the use of program theory as it relates to the problem and research questions in the investigation of a collaborative, multidisciplinary program serving college students with ASD.

According to Chen (2012), “program theory is defined as a set of explicit or implicit assumptions by stakeholders about what action is required to solve a social, educational, or health problem and why the problem will respond to this action” (p. 17). Program theory provides a framework for understanding why program designers implement specific services/interventions and how they attain desired results (Sidani & Sechrest, 1999). Rogers, Petrosino, Huebner, and Hacsi (2000) posit that program theory highlights the “mechanism by which program activities are understood to contribute to the intended outcomes” (p. 209). Program theory evaluates the linkage between inputs and outputs of a program.

Program theory was first identified in the 1970s as program evaluators attempted to understand the structure and operation of programs and examine the existing links between
program inputs and outputs (Rogers, et al., 2000). The popularity of program theory grew in the 1980s when federal research funders required program evaluation for grant applications. By the 1990s, arguments for program theory started to appear in education, criminology, and sociology discipline-specific journals. At that time, Chen’s (1990) seminal book, *Theory-Driven Evaluations* identified program theory as an operational conceptual framework for evaluating program effectiveness. Since Chen’s influential work, several authors have operationalized program theory through the development of conceptual models (Weiss, 1998; Lipsey, 1993).

**Conceptual Model.** Lipsey’s (1993) conceptual framework for operationalizing a program theory was used in this investigation of a program developed for college students on the autism spectrum. This conceptual model allows for a detailed examination of this complex multidisciplinary program’s inputs, processes, and outputs. Lipsey (1993) identified six elements of a program theory: problem definition, exogenous factors, critical input, mediating processes, implementation issues, and expected output. Program definition focuses on a clear description of the problem and the target population (Sidani & Sechrest, 1999). According to Sidani and Sechrest (1999), the problem definition should “describe the nature, manifestations, causative factors, and level of severity of the presenting problem for which the program is given” (p. 229). The explanation of the problem and exogenous factors provides an opportunity to describe the unique and varying needs of students with ASD and challenges that may impact programming. The critical inputs, mediating processes, and intervention elements examine the resources, services, and modes of delivery in the program. The model also allows for a discussion of the selected interventions and how they align with the expected outcomes. The last component, expected output looks at the expected short- and long-term outcomes resulting from CASP.
Lipsey’s (1993) operational model provides a framework for examining the alignment of the problem, target population, interventions and services implemented, and the desired outcome. In essence, the model provides a linear method for evaluating the link between these concepts and the overall effectiveness of the program. As you will see in figure 1, the model provides a conceptual guide for examining the inputs, processes, and outputs of a program based on Lipsey’s six elements: problem definition/target population, exogenous factors, critical inputs, mediating processes, implementing issues, and expected output.

![Program Theory Logic Model](image)

**Figure 1.1 Program Theory Logic Model (Lipsey, 1993)**

Program theory’s operational model provides an excellent method for examining the inputs, processes, and outputs of a program developed for college students on the spectrum. This theoretical framework provides an excellent lens for understanding how the identified services and interventions provided through the six interdisciplinary service departments comprising
CASP impact the intended social and academic outcomes of students with ASD. Program theory also allows for a theoretical examination of the use of graduate student mentors as the identified program intervention to improve social skills and the adaption to the college environments for students on the autism spectrum. Lastly, program theory provides a method to examine the link between in-service training provided for faculty, students, and administration through CASP with the intention of increasing campus awareness of the needs of individuals with ASD.

Significance of the Problem

The increase in the prevalence of autism in the last decade and the influx of this population into colleges around the nation calls for an examination of the supports provided by postsecondary institutions (Adreon & Durocher, 2007; Hart et al., 2010). As access to postsecondary institutions improves for students on the spectrum, colleges and universities across the country need to be prepared to support this population (Hart et al., 2010). Several postsecondary institutions have developed programs to address the needs of students with autism spectrum disorder. College Autism Spectrum is an organization that trains and supports professionals at colleges and universities that offer programs to students on the spectrum (www.collegeautismspectrum.com). The College Autism Spectrum organization identified at least 20 colleges around the country offering programs supporting students on the spectrum. These institutions include the University of Connecticut, University of Arkansas, and Colorado State University, which all offer programs with support services such as mentoring, career planning, skill building, and training. The creation of this organization, the resource website, and the recent development of programs across the nation suggests that there is a need for additional research on established programs for students on the spectrum in higher education. It is important to understand what these programs offer to students with ASD.
Exchanging a program utilizing a collaborative approach to address the needs of students with autism in postsecondary institutions will provide other institutions with a framework to aid with the development of their own programs. This program is unique because it utilizes a holistic approach to providing services that is based on the needs of the individual as opposed to providing specific services to students on the spectrum without consideration of distinct needs. The approach is important because autism is a disorder that impacts individuals differently, and students need a customized approach to the support and services they receive. Given the wide range of services this program provides to students with ASD, a program evaluation provides an opportunity to examine the impact of several different services on the educational and social outcomes of this group.

In addition to informing other institutions, this research will be beneficial to the participants and professionals working with CASP at Brooklyn College (Longtin, 2014). This program was developed in 2012 and is still in the infancy stage; as a result, program coordinators are interested in assessing the impacts of the services provided to students on the spectrum. The goal of formative program evaluation is to provide program administrators and staff with the feedback required to improve programming. The use of formative evaluation will also allow others to use the research to adopt similar programs at other institutions of higher education. A formative program evaluation will provide program coordinators with information about what is working, what needs to be changed, and potential areas for growth. This research will inform professionals in student affairs, student services, offices serving students with disabilities, and the larger college community about the experiences of students with ASD.

Ultimately, research on Brooklyn College’s program will inform professionals and students in higher education about the effectiveness of a program developed to provide services
to students on the autism spectrum. An examination of the effectiveness of this program can help
guide the development of accommodations, support services, and professional development
efforts to assist in the improvement of outcomes for students with ASD on a national and local
level.

**Positionality Statement**

When examining a program addressing the needs of students on the autism spectrum, my
most obvious bias is based on my role as a mother of a child on the spectrum and another
diagnosed with Attention Deficit Disorder (ADD). My opinions, beliefs, or desires for my own
children with disabilities could become a bias in the research. I faced this quandary when
considering this topic, as I was concerned about my ability to examine the problem objectively. I
took some time to reflect on my position as a mother of children with disabilities and how that
could influence my examination of this topic. According to Machi and McEvoy (2009), this
personal connection could serve as a bias if it is not identified and addressed by a “commitment
to be open-minded, skeptical, and considerate of research data” (p. 19). I am dedicated to
continuously reflect on my beliefs and opinions so they do not bias my research on programs
created to improve educational outcomes for students on the spectrum.

My professional experience as the director of enrollment services at a large urban public
college has also shaped my positionality. Brooklyn College is a diverse institution with a small
population of students with disabilities. On several occasions, I have provided services to
students with physical, developmental, and learning disabilities. One specific interaction had a
tremendous impact on my decision to look at the experiences of students with disabilities. A
young man came to my office to file a complaint about the service provided to him by a financial
aid counselor over the phone. This student has a severe speech impediment that affects the way
he communicates with others. After we resolved his financial aid issue, he went on to tell me about some of the other struggles he has faced as a student with disabilities. He shared the story of how he was penalized by one of his professors for not being able to deliver a verbal presentation. After hearing his story, I asked him if he had requested accommodations through the Center for Student Disability Services. He responded by saying “no” and explained that he did not go to the office of disability services because he did not want to be labeled. I admired this young man’s resolve to overcome his disability; however, I could not understand why he purposely refused to take the necessary steps to receive accommodations that could help him. I now realize that my response was based on my experiences as an administrator, advocate, and mother of two children with disabilities. As I think about my interaction with the young man who would not disclose his disability, I realize that I will never fully understand the experiences of individuals with disabilities who may perceive the world as a place where they have not been fully accepted by society (Asch, 2001).

According to Parsons (2008), positionality is based on how individuals understand and perceive the world around them. As I reflect on my interaction with the young man who would not disclose his disability, I realize that my initial response was to convince him to go to the Center for Student Disability Services and disclose. It was only after observing the pain and determination in his eyes that I took a moment to listen and understand the experiences that led him to this decision. My initial response was a result of my experiences as an advocate and mother of two children with disabilities. I believe that all students with a diagnosed disability should receive the appropriate accommodations needed to meet their potential. My research examined the services provided to this population while taking into account their experiences and truly understanding their position.
Advocating for students with disabilities requires an understanding of the experiences of this population as it relates to the dominant society. The ADA (1990) proposal section identifies a need for the legal protection of this population because of unequal treatment. This experience has negatively impacted the perceptions of students with disabilities and the way they interact with the world around them. According to Jupp and Slattery (2006), the historical and social structures within our institutions have marginalized non-dominant groups based on class, race, gender, sexual orientation, and other markers.

It is important to recognize the role dominant society has played in the experiences of students with disabilities. Evaluating a program designed for students on the autism spectrum has significant implications for the development of accommodations, support services, and professional development efforts to assist in the improvement of outcomes for students with ASD. My personal attachment to this topic has and will continue to be a contributing factor to my work with this population, and I hope to have an opportunity to reduce the apprehension students with disabilities face in seeking help.

**Definition of Terms**

**Autism Spectrum Disorder.** The American Psychological Association (APA) defines autism as a developmental disability that impairs social and academic functioning ([www.apa.org](http://www.apa.org)). The DSM-IV characterized ASD as an impairment in social interaction, repetitive and stereotypical behaviors and interests, and significant impairment in social functioning and other important areas of executive functioning. Autism Spectrum Disorder is a group of developmental disorders with symptoms that range from no communication to completely verbal and/or low intelligence to normal or high intelligence. The spectrum refers to several disorders categorized as an autism spectrum including autistic disorder, pervasive
developmental disorder (PDD-NOS), Asperger syndrome, Rett syndrome, and childhood disintegrative disorder.

**Asperger’s Syndrome.** Asperger’s syndrome is part of the autism spectrum; however, unlike those with other autism disorders, people with Asperger’s syndrome are higher functioning, with normal to high intelligence. Individuals with Asperger’s generally develop social impairments later in life.

**High-Functioning Autism.** As with Asperger’s syndrome, individuals with high-functioning autism have average to high intelligence but have social impairments. Unlike those with Asperger’s, individuals with autism develop social impairments at an early age.

**Logic Model.** Wholey, Hatry, and Newcomer (2010) define a logic model as “a plausible and sensible model of how a program will work under certain environmental conditions to solve identified problems” (p. 56).

**Program Evaluation.** Weiss (1998) defines *program evaluation* as “the systematic assessment of the operation and/or the outcomes of a program or policy, compared to a set of explicit or implicit standards, as a means of contributing to the improvement of the program or policy” (p. 4).
Chapter 2: Literature Review

College students with high-functioning autism spectrum disorder (ASD) have the intellectual ability to perform well in postsecondary institutions; however, their social skills and the demands of college life can hinder their goals of attaining a college degree. Several higher education institutions are in the process of developing programs to support students as they pursue a college degree. The purpose of this research study is to evaluate a newly formed interdisciplinary collaborative support service program serving college students with autism at a four-year public college in the Northeast region of the United States. This formative program evaluation will collect information about the activities and characteristics of CASP to assess if the program is meeting its goals mid-cycle and make recommendations for improvements to aid with developing the program. The research questions will examine how the interdisciplinary Collaborative Autism Support Program (CASP) at Brooklyn College improves the experiences of college students with autism spectrum disorder (ASD). The program will also explore how the services and interventions provided by CASP align with intended educational and social outcomes for students and how the program can be improved.

The literature on college students with autism spectrum disorder concentrates on understanding how the disorder’s conditions affect the academic and social outcomes of this population. Extensive research also examines how secondary and postsecondary institutions can prepare students with ASD for the transition to college. The main challenges identified in the literature for college students with ASD are transition planning, the development of social and self-advocacy skills, campus-wide awareness of the disorder, and appropriate supports. This literature review was conducted through several education databases and specifically
postsecondary education and disability journals. Key words used in the search were high-functioning autism, Asperger’s syndrome, higher education, and programming.

This literature review begins with a discussion of the history and prevalence of autism spectrum disorders. The review then identifies the legal issues and factors contributing to the increase in enrollment of students with ASD. Then, this paper highlights some of the challenges faced by college students on the spectrum to understand the needs of this population. Finally, this paper reviews the literature available on programs developed to support college students on the spectrum and the need for additional research on these programs. The following themes found in the literature are examined: social skill development, transition planning, self-advocacy skills, professional training, and programming.

**History of Autism Spectrum Disorders**

Kanner’s (1943) seminal article is the first published work on infantile autism. Kanner (1943) identified the symptoms of impaired communication and social skills, previously diagnosed as schizophrenia or “feeblemindedness,” as autism disorder. He described people with the disorder as having an “inability to relate themselves in an ordinary way to people and situations from the beginning of life” (p. 242). Around the same time, Hans Asperger (1944) published his work on a similar autistic disorder now known as Asperger’s syndrome in “Autistic Psychotherapy.” During this time, it was believed that autism was caused by parental personalities and attitudes toward their children (Wing & Potter, 2002).

According to Wing and Potter (2002), the theory that autism was caused by parental attributes changed in the 1960s with the development of scientific research finding that autism was a disorder affecting the development of the brain. Since this finding, scientific research has
developed several characterizations of autism. According to Wenzel and Rowley (2010), while the term Autism Spectrum was designated in 1944, the full diagnosis did not become part of the American Psychiatric Association’s (APA) Diagnostic and Statistical Manual (DSM) until 1994. The DSM-IV characterized ASD as an impairment in social interaction, repetitive and stereotypical behaviors and interests, and significant impairment in social functioning and other important areas of executive functioning (American Psychiatric Association, 1994, p.84).

**Prevalence of Autism Spectrum Disorders**

According to the Center of Disease Control and Prevention (2012), approximately 1 in 88 children were diagnosed in 2012, up from 1 in 150 children in 2000. Wenzel and Rowley (2010) attribute the increase in the prevalence of autism spectrum disorders to the development of the diagnosis in the DSM-IV. Wing and Potter (2002) identified several possible reasons for the increased incidence and prevalence of autism:

1. Changes in the diagnostics criteria
2. Difference in methods used in the studies
3. Increasing awareness among parents, professionals, and the general public about the existence of autistic spectrum disorders
4. Differentiation of autistic conditions associated with other conditions such as mental retardation, other developmental disorders, average or high intellectual ability, and psychiatric disorders
5. The development of specialist services (i.e. speech therapy, behavioral therapy)
6. Possible cause and relation to age of onset
7. Possible true increase in numbers (p. 152).

With the prevalence of ASD, there has been a surge in the enrollment of students with autism in postsecondary education institutions. According to Wagner, Newman, Cameto, Garza,
and Levine (2005), students with autism are more likely than any other disability category to attend postsecondary school. Approximately 46 percent of students with disabilities attending postsecondary institutions are diagnosed with autism (Wagner et al., 2005). Adreon and Durocher (2008) attribute the increased enrollment of students with ASD in postsecondary institutions to the ability to diagnose individuals at an early age and provide them with interventions that can improve outcomes. Yet, others have attributed the increase in enrollment of students with autism in postsecondary settings to legislation improving access to individuals with disabilities (Stodden & Mruzek, 2010).

Disability Law

The Individuals with Disabilities Education Improvement Act (IDEIA) ensures that public schools identify students with disabilities and provides students with the necessary supports. Roberts (2010) states that the mandate to include a transition plan in the Individual Education Plan (IEP) of school-aged students has engaged students and their families in the exploration of post school options. With the legally mandated interventions and supports provided to students on the spectrum, high-functioning students are enrolling in postsecondary schools at a higher rate.

Stodden and Mruzek (2010) provide a historical review of the legislative and policy changes that have introduced postsecondary and employment options to students with autism. This review starts with the “de-institutionalized movement for people with disabilities in the 1960s and 1970s” and leads to the “self-determination movement” of the 1990s and new millennium (Stodden & Mruzek, 2010, p. 1). According to Stodden and Mruzek (2010), the Americans with Disabilities Act (ADA) of 1990 “transformed the self-determination and empowerment movement by persons with disabilities into federal legislation” (p. 1). ADA is a
significant civil rights legislation that increases access to postsecondary institutions by protecting individuals with disabilities from discrimination and ensuring that this population receives appropriate accommodations.

Unlike the K-12 setting, higher education institutions are not responsible for identifying students with disabilities and making sure that they receive appropriate services. In postsecondary institutions, students must self-identify and communicate their needs to receive accommodations protected under ADA (Adreon & Durocher, 2007). Stodden and Mruzek (2010) believe that this change empowers students with disabilities to make decisions about their education. However, this change can have a tremendous impact on students with autism who lack the social skills needed to negotiate accommodations (Adreon & Durocher, 2007; Hendricks & Wehman, 2009).

Mamiseishvili and Koch (2010) predict that provisions in federal laws will continue to contribute to the increase in enrollment of student with ASD in postsecondary institutions. However, higher education institutions and students on the spectrum may not be prepared for the challenges that will come with the surge in enrollment of students with ASD in colleges and universities across the nation (Morrison, Sansosti, & Hadley, 2009; Okamoto, 2007; Held, Thoma, & Thomas, 2004; VanBergeijk, Klin, & Volkmar, 2008). In order to support the increase in enrollment of students with ASD and improve their degree completion rate, Mamiseishvili and Koch (2010) note that postsecondary institutions will need to identify and implement transition strategies, increase accessibility to instructional material, and increase awareness of best practice guidelines when working with this population. The next section of this literature review will look at the challenges faced by students with ASD.
Challenges for Students with ASD

Several researchers have identified the challenges faced by college students with ASD as social interaction (Graetz & Spampinato, 2008; Morrison, Sansosti, & Hadley, 2009; Camerena & Sarigini, 2009), transition planning (Adreon & Durocher, 2007; Roberts, 2010), self-advocacy and determination skills (Lee, Simpson, & Shogren, 2007; Morrison, Sansosti, & Hadley, 2009; Getzel & Thoma, 2008), and campus awareness (Prince-Hughes, 2003; Okomoto, 2008; Held, Toma, & Thomas, 2004; Simpson, 2004).

Social skills

The literature reveals that due to social skills impairments, the college experience can be extremely stressful for students with ASD (Glennon, 2001). Students with ASD have difficulties transitioning and changing routines, which can negatively affect their functioning in college (VanBergeijk, Klin, & Volkmar, 2008). Graetz and Spampinato (2008) provide an example of this in *Asperger's Syndrome and the Voyage Through High School: Not the Final Frontier*. Graetz and Spampinato (2008) discuss the story of James, a 20-year old college student with Asperger’s syndrome whose professor shows up late to class and disrupts his day-to-day routine. Since the class started late, James did not have a chance to sit in his usual seat. This break in James’ day-to-day routine caused him so much distress that he was unable to focus on the instructor’s lecture. The first year of college presents several changes to the desirable routine of students on the spectrum. In addition to new classes, students residing on campus also have to deal with stressful changes to their living arrangements. Students with ASD do not possess the coping skills necessary to deal with stressful situations, which present a challenge to their pursuit of attaining a college degree. A professor arriving late to class may not be a big deal for most students, but it can be a traumatic experience for students on the spectrum.
White, Ollendick, and Bray (2011) conducted a quantitative study examining the prevalence of ASD in college students and the associated symptoms and related problems. Study results revealed that there was a positive correlation between an ASD diagnosis and symptoms of social anxiety and depression. There was also a positive correlation with a diagnosis and feelings of aggression and hostility. The study found that high-functioning students with ASD reported less satisfaction with college life even though they performed well academically (White, Ollendick, & Bray, 2011). This study suggests that students in this population need additional support dealing with feelings of depression, developing social skills, and positively interacting with others.

Wagner, Newman, Cameto, Garza, and Levine (2005) conducted a national survey of the post school experiences of students with autism and found that ASD presented a challenge to the development of essential interpersonal relationships needed for the successful adjustment to college life. Students with ASD have difficulty establishing relationships with their professors and other college personnel (Getzel & Thoma, 2008; Gobbo & Shmulsky, 2013; McKeon, Alpern, & Zager, 2013). In addition to being able to communicate their disability and necessary accommodations, research has found that establishing strong relationships with faculty members is important to supporting student success (Getzel & Thoma, 2008). This is especially true for students on the spectrum who need to communicate their disability to professors to ensure that they receive appropriate accommodations (Garrison-Wade, 2012).

Students with ASD also exhibit atypical behaviors that make it difficult to establish important relationships. Okamoto (2007) refers to Bashe and Kirby (2010) who provide a list of specific behaviors exhibited by students with Asperger’s syndrome that present a challenge to developing relationships. Some of these behaviors include a preoccupation with special interests,
stiff or seemingly one-sided conversations, lack of empathy, pessimist attitude, and inability to interpret nonverbal communication. Okamoto (2007) introduces a fictional story that represents some of the symptoms exhibited by a student with Asperger’s syndrome and how it can affect the classroom setting. In the story, a student interrupts the class to talk about the trees on the campus grounds. It turns out that trees are a special interest of the student and he interrupts the instructor several times to share his knowledge of trees with the group. The instructor is frustrated by the student’s attempts to take over the class. The other students in the class are distracted by the interruptions and soon lose interest in the lesson plan. This story provides a clear illustration of how the social impairments of students with ASD can affect their interactions with others in the learning environment.

Nevill and White (2011) conducted a study to assess college openness to students with ASD. This particular study focused on the interactions of students with ASD and their peers, and found that there was limited campus awareness about autism spectrum disorders and the obstacles this population faces. Study results indicated that students who have a relative or friend with ASD were more open to interacting with fellow students on the spectrum. In addition, students that majored in social sciences were more accepting of students with ASD because they study human behavior and are understanding of behavioral differences. This suggests a need for improving campus-wide awareness and education of ASD.

**Transition Plans**

A significant amount of the literature on students with ASD focuses on the transition from secondary to postsecondary institutions. The literature reveals that the development of an effective transition plan in secondary school can improve the outcomes for college students with ASD (Hart, Grigal, & Weir, 2010). IDEIA mandates that transition plans include the student’s
present level of performance, effective instruction methods, related services, experiences with
the community, and employment and other post-school options as they relate to the student’s
goals and aspirations.

The literature suggests that planning for the transition of students with autism to college
should start early, be comprehensive, include all stakeholders, and involve the student. Roberts
(2010) suggests that the development of an effective and comprehensive transition plan starts
with the collection of important information. Open communication between the student, parents,
teachers, and other team members can assist with the collection of relevant information to assist
in the development of a plan. The inclusion of the student in the IEP process is integral to the
success of the transition plan. According to Roberts (2010), students should be aware of their
disability, learning style, and strengths and weaknesses in order to increase their ability to
communicate their needs to others. While student involvement was found to be important to
effective transition planning, Cameto, Levine, and Wagner (2004) found that only 58 percent of
students with disabilities took an active role in transition planning. If students are not encouraged
to take an active role in the IEP process in the secondary setting, they will not be prepared to take
on the responsibility of disclosing their disability and advocating for accommodations in the
postsecondary institutions. A discussion about the importance of this self-advocacy skill will be
discussed later.

Adreon and Durocher (2007) identified several issues that should be addressed in
transition plans. These factors include deciding on the size and type of institution, developing
independent living skills, teaching students how to disclose their disability, identifying
appropriate academic and social supports, and developing strategies to assist with the adjustment
to the college environment. According to VanBergeijk, Klin, and Volkmar (2008), students with
ASD and their families should assess the selected institution to decide if it is the right fit since it will impact the transition. If students with ASD are anxious about being in a large setting, families should select a small community college. Taking courses at a community school can be beneficial for a student on the spectrum because they provide additional supports not available at four-year institutions (Grigal, Neubert, & Moon, 2001). Additionally, students on the spectrum may be interested in pursuing careers in the technical fields, so families may want to consider a school that specializes in the student’s interest and avoid looking at liberal arts colleges that require courses in other subject areas.

VanBergeijk, Klin, and Volkmar (2008) note that a good IEP plan should serve as a “blueprint” for students seeking support services at the university level. According to VanBergeijk et al. (2008), “this ‘Individualized Education Plan’ should outline academic modifications, independent living skills, socialization skills and goals, vocational goals, and mental health supports” (p. 1363). The development of this plan should begin at age 14, and the student should be involved from the beginning to ensure that they are knowledgeable about the transition process. As mentioned before, all members of the team should be involved in this transition process, especially parents.

Parents. Parents play an important role in the successful transition of students with ASD from high school to college. Parent expectations of their child’s abilities and trust in the transition process is important to the success of college students with autism (Wagner et al., 2005). A study conducted by Cameto et al., (2004) found that students with autism were more likely to receive instruction for transition planning than other disability groups; however, fewer than 3 in 10 parents of students with ASD believed that the transition planning process was helpful.
Wagner et al. (2005) surveyed parents in their longitudinal study of the post school experiences of students with disabilities. These researchers believed that it was important to assess the postsecondary expectations of parents, as they will have the most impact on shaping the educational aspirations of students with disabilities (Wagner et al., 2005). While 92 percent of the parents with children in the general population had expectations that their child would attend college, only 61 percent of parents of children with disabilities had the same expectation. Parent expectations for students on the spectrum were even lower at 28.5 percent, while the percentage of students with autism who had a goal of attending a postsecondary institution was 66.6 percent. Interestingly, this study found that while parent expectations for students with autism are low, this population is more likely than any other group to attend college. Approximately 46 percent of students with autism attend a postsecondary school (Wagner et al., 2005). The disparity between the expectations of parents of students with autism and their actual enrollment in postsecondary institutions is significant to the educational outcomes of this group. If parents do not expect that their children will attend college, they neglect to equip them with the skills needed to be successful in the college environment.

Morrison, Sansosti, and Hadley (2009) conducted a qualitative study examining the perceptions of parents of college-bound children with Asperger’s syndrome. The results of this study revealed two major themes as concerns for their children enrolling in college. The first concern was about the ability of postsecondary institutions to provide appropriate supports and accommodations. The second theme was the ability of students with ASD to develop self-advocacy skills. The transition to college is complicated for students with autism who are dependent on their families to make all of their academic decisions. Once enrolled in
postsecondary institutions, they are responsible for making these decisions; however, they were never prepared to take this step independently.

Camarena and Sargiani (2009) conducted a qualitative study on the educational aspirations of high-functioning adolescents with autism spectrum disorders. According to Camarena and Sargiani (2009), families of children with ASD need to take an active role in the development of the student’s communication skills so they can participate in the transition plan process. Additionally, the study revealed that students with ASD and their families were more concerned about non-academic issues presenting obstacles to attaining a college degree. The obstacles identified were campuswide awareness of disabilities, social skills, availability of mentoring support, and the attitude and confidence of the student. As with other studies looking at the role of parents in the educational outcomes of college students with ASD, Camarena and Sargiani (2009) identified a need for families to develop self-advocacy skills. Parents have a significant role in preparing their children to make decisions independently and developing self-advocacy skills.

**Self-advocacy and Self-determination**

Self-advocacy was identified as a major theme in the literature about the experiences of college students with ASD. The last few studies mentioned in this literature review spoke about the importance of transition planning and the need to ensure that students were involved in the process. Unfortunately, many college students with ASD do not take an active role in the transition planning process or the transition plan was not effective (Cameto et al., 2004). As a result, students with ASD do not have the self-advocacy skills needed to communicate their disability to others and ensure that they receive the appropriate accommodations. Legally, additional supports and services do not need to be provided to students with disabilities in the
postsecondary setting unless the student discloses their disability to the institution. Even when they disclose their disability, it is important that they understand their strengths and weaknesses to ensure that the office of disabilities provides them with the appropriate accommodations (Adreon & Durocher, 2007; Roberts, 2010). While VanBergeijk, Klin, and Volkmar (2008) suggested that the IEP should be used as a blueprint, many postsecondary institutions are not mandated to use the IEP, so it is important that students with ASD have the ability to self-advocate and ensure that they receive the supports they need.

The research conducted by Hart, Grigal, and Weir (2010) is significant in providing an understanding of the importance of developing self-advocacy skills. The researchers highlight the fact that prior to college, many students with ASD were not placed in a position to make their own academic decisions. In most cases, parents or teachers were responsible for making important decisions about the students’ academic careers. Once students reach college, they find themselves unprepared to take on the responsibility of making these decisions. Hart et al. (2010) note that students with ASD need support developing self-advocacy skills. Hart et al. (2010) state

Once in college, students need to be supported to speak directly to their college professors to explain learning needs, advocate with disability support offices for needed accommodations, and speak to peers about their disability and how it may affect them (p.143).

Getzel & Thoma (2008) conducted a qualitative study on 34 college students with disabilities and found that self-determination was an important factor in the successful educational outcomes for students with ASD. Self-determination is defined as “being able to advocate for what you need, understanding your disability and how it impacts your learning,
having self-confidence, being independent, and adjusting your schedule to make sure things get done” (Getzel & Thoma, 2008, p. 79). The study identified important self-determination skills such as seeking services on campus, forming relationships with professors and instructors, developing support systems on campus, and self-awareness.

Lee, Simpson, and Shogren (2007) conducted a meta-analysis of the self-management skills of student learners with autism in the postsecondary setting. The authors suggest that self-management strategies such as self-observation, self-monitoring, and self-instruction can “empower students to control their own behavior instead of relying on a parent or teacher for prompts or external interventions, and they assist students in generalizing what they learn in various natural settings” (Lee, Simpson, & Shogren, 2007, p. 3). Lee et al. (2007) found that “self-management interventions generally resulted in socially desired behaviors” (p. 8). The authors assert that self-management is effective and should be considered in programming for students on the spectrum.

The next section will discuss the role of college professionals in supporting students with ASD.

**Professional Training**

Another recurring theme in the literature is the development of professionals working with college students on the autism spectrum. Welkowitz and Baker (2005) postulate that college faculty and staff were not previously required to provide the social support needed by students with ASD. Simpson (2004) reflects on the need for effective interventions and trained professionals to work with children and youth with autism. He believes that there is a shortage of knowledgeable professionals working with this population. Simpson (2004) believes that
services available to students on the spectrum are not comprehensive and do not consider the wide range of symptoms unique to individuals in this population. The general academic accommodations provided to all students with disabilities are inappropriately provided to students on the autism spectrum. This population needs services that focus on improving social skills and executive functioning (Neubert, Moon, & Grigal, 2002). Simpson (2004) calls for a coordinated approach to providing services to this population that can only begin once higher educational professionals are educated and trained to handle the challenges this population faces.

Held, Thoma, and Thomas (2004) are educators who conducted an action research study because they believed that they were not appropriately trained to help students on the autism spectrum transition to the college setting. Thomas is a special education teacher who wanted to explore how she could help develop self-determination skills for her high school students with disabilities. Thomas reviewed the literature on students with ASD and knew that self-determination skills were identified as one of the integral factors in the transition process. However, Thomas noticed that many of her students did not possess self-determination skills and she did not know how to help develop them. Thomas collaborated with Held, a school counselor working with students on the spectrum in an effort to help them develop self-determination skills. During the research process, the authors learned that developing self-determination skills is a process that takes time. Strategies to improve self-determination should include “person-centered planning methods,” which focus on the student’s strengths and interests to ensure involvement. This approach reinforces the student’s self-confidence and encourages them to participate in the transition process. It also provides the student with an opportunity to display their talents, which demonstrates the individual’s abilities to others and encourages other professionals to support the individual. The student is then empowered to become an active
member in the transition planning process and establish key relationships with professionals that can provide assistance. This research is significant to policy makers and administrators in secondary and postsecondary institutions working with students on the spectrum.

Okamoto (2007) discusses the recent surge in enrollment of students with ASD in colleges across the nation. Okamoto (2007) also asserts that the characteristics of students with autism call for professionals to educate themselves about this population. Okamoto (2007) cautions professionals working with students on the spectrum that while they may have common symptoms, these students have different personalities and challenges. This author looked to the literature for advice on working with this relatively new population with a unique and wide range of needs and challenges. One of the researchers he cited was Dawn Prince-Hughes, who provided a pivotal and insightful recollection of her own experiences as a college student with Asperger’s syndrome. While the Prince-Hughes (2003) article was not in a peer-reviewed journal, it was referenced in several peer-reviewed articles on the experiences of college students with autism spectrum (Adreon & Durocher, 2007; Okamoto, 2007; Welkowitz & Baker, 2005).

Prince-Hughes (2003) provides one of the most candid explorations of the struggles of students with autism and offers recommendations and strategies for administrators and college personnel working with the population. Prince-Hughes (2003) describes several atypical behaviors exhibited by students on the spectrum as coping mechanisms, such as speaking in a loud voice or rocking back and forth, and explains that others often misinterpret these actions as inattentiveness or a distraction in the learning environment. Prince-Hughes (2003) states “as autistic students, our internal needs and motivations are often at odds with the physical environment and many of the social and emotional demands of college” (p. B16). Given the recent increase of the diagnosis of autism and subsequent enrollment of this population in
postsecondary institutions, Prince-Hughes calls for professionals to educate themselves about the challenges faced by this population in order to support their pursuit of a college education.

Recommendations provided by Prince-Hughes (2003) are the following:

1. People with autism are often misdiagnosed with other disorders. It is important for university counselors to learn more about autism and the many conditions associated with it.

2. Be aware that talking therapy does not cure autism.

3. Students may not be able to maintain a full load of classes. They also often need more time to finish exams and projects due to taking longer to figure out instructions.

4. Clubs that focus on the student’s area of interest can help them meet other students and develop social skills. These students function better when they can establish routines. They may need to carry “odd” objects to class and around campus with them. These can help the student feel anchored.

5. Allow students to live in a private room because they have greater needs for privacy.

6. Some of these students do have peculiar tics, like rocking or grimacing. These often are behaviors used by these students to calm down and focus.

7. Professors should have these types of behaviors explained to them.

8. Students in the class may need to have atypical behaviors explained to them as well. (p. B16)

Simpson (2004), a professor of special education at University of Kansas, has developed training programs for professionals working with students on the autism spectrum. Simpson (2004) reflects on his experiences training professionals and states that he

Took great delight in observing the positive outcomes that accrued when a well-trained multi-disciplinary staff used effective practice methods in a coordinated fashion, particularly when these methods were individually orchestrated in accordance with family needs, preferences, and resources. (p. 137)
All evidence points to the use of a multi-disciplinary approach to working with children and youth with ASD. However, most professionals in the postsecondary education setting do not have the appropriate training to work with this group or an understanding of the necessary support to coordinate programming (Simpson, 2004; Hart et. al., 2010; Welkowitz & Baker, 2005). The research suggests a need to develop training for college professionals so they can provide needed support to students on the spectrum.

**Programming**

While there are numerous studies on the challenges faced by college students with ASD and recommendations for meeting their needs, there is limited research on programs or services provided to this population. According to Nevill and White (2011), in 2010, 27 postsecondary institutions across the country were given $10.9 million dollars of federal funds to develop transition plans for students with learning disabilities (TPSLD), including students with ASD, to access academia, employment training, and social activities. It is still too soon to find out how these funds are being used to improve education outcomes for students with ASD, but these institutions will look to the research for best practices when working with this population (Mamiseishvili & Koch, 2010).

Hart, Grigal, and Weir (2010) discuss postsecondary options for students with ASD and learning disorders. The authors provide a list of common accommodations made for students with disabilities: note-taking, tape-recorder, laptop computer, counseling, extended time for assignments and examinations, separate location for testing, and test-format changes. Hart et al. (2010) list several promising practices specifically for students with ASD: person-centered planning, mentoring, flexible instruction, and dual enrollment programs. The authors assert that planning should be “person centered, rather than systems centered, [because] it is more likely
that the creative and collaborative use of resources across systems takes place” (Hart et al., 2010, p. 141). This personalized approach will be more effective at addressing the unique and varying needs of individuals with ASD.

Hart, Grigal, and Weir (2010) discuss Farleigh Dickinson University’s college-based support program for students with Asperger’s (COMPASS). COMPASS is an “individually tailored, comprehensive, academic, and social support program” for up to six college students with Asperger’s syndrome (www.fdu.edu). The program provides two hours of individualized academic support, one hour of individual counseling, and one group therapy session. The program also educates the college community about Asperger’s syndrome. There are currently no published articles on this program, which makes it hard to assess its success and inform the development of programs at other institutions. As postsecondary institutions look to create programs for students with ASD, it is important that research on these programs examines the experiences of this population.

Wenzel and Rowley (2010) provide a review of a first-year program for students with ASD at the University of Connecticut. The program provides resources and strategies to support students with ASD as they transition to college. The first-year program stresses the importance of looking at the student as a whole and provides comprehensive services to help them adjust to the academic, personal, and social demands of college. The program focuses on developing academic and social skills by using the student’s interests and strengths. Courses are provided in a learning community with weekly discussions on topics such as “Introductions and Expectations, Services Provided by the Center for Students With Disabilities (CSD),” “The Husky One Card (UConn ID) and How to Use It,” “Conversational Skills & Presentations,” and “Social Life & Friendships, Personal Boundaries, Formal & Informal Behavior.” The program
encourages the use of multi-modal instruction and is looking for ways to infuse technology into its courses. While the program was developed on best practices identified in this literature review, research has not been conducted on this program to understand how these supports have impacted students on the spectrum.

Zager and Alpern (2010) examined College-Based Inclusion Programming (CBIP) for transition-aged students with autism. The mission of the program is to educate students with autism and intellectual disabilities with their peers and prepare them for adult living. The program allows students to take college-level courses with the support of paraprofessionals while they are in high school. This transition approach provides high school students with the experience of taking college courses with the support of professionals and services offered in the secondary setting before enrolling in college. Students still benefit from receiving speech-language services and counseling sessions that they may not obtain as undergraduate students. Zager and Alpern (2010) provide information about the services provided to students on the spectrum during the difficult process of transitioning; however, this article does not provide us with information about the educational outcomes of these students. A study was not conducted on the participants in the program or the professionals providing services. It is important for practitioners to understand the experiences of students in these programs as they work to support students with ASD at their own institutions.

One of the few researched programs developed for college students with autism is the Keene State College program funded by the Doug Flutie, Jr. Foundation (Welkowitz & Baker, 2005). This program is a multifaceted peer-mentoring program for students on the spectrum, and is designed to provide social support and develop the interpersonal skills needed for residential campuses. Welkowitz and Baker (2005) discuss the program’s impact through the use of social
supports, social skill training, stress coping skills, and collaborative team teaching. The program directors train undergraduate students to mentor fellow students with ASD in exchange for an hourly salary or college credit. The study examines the experiences of two college participants with ASD. Welkowitz and Baker (2005) study of this peer-mentoring program found that students with ASD were able to improve their social interaction and adaptive skills through the development of brief meetings with their mentors to help “interpret a social interaction that occurred that day or to review organizational issues, including blockades to complying with a daily schedule or completion of a homework assignment” (p. 10). Welkowitz and Baker (2005) provide one of the few examinations of a program created specifically for college students on the spectrum. Further research on similar programs is necessary to help institutions across the nation develop supports for the growing number of students with autism in college.

Lastly, Dr. Susan Longtin is a current faculty member in the Speech and Language Pathology department at Brooklyn College and one of the developers of the Collaborative Autism Support Program at Brooklyn. Longtin (2014) describes the development of the collaborative support program designed to support the untraditional accommodations for students with ASD using the existing infrastructure on campuses. Longtin (2014) encourages institutions interested in developing supports for students with ASD that may have limited financial resources to examine existing resources. Through coordination and collaboration across student life and academic affairs divisions, they can form partnerships between disability services, health clinics, personal counseling services, career counseling centers, speech-language hearing departments, academic/learning centers, and residential life. By coordinating supports through these different service areas, they can provide a personalized approach to accommodating ASD students that goes beyond the common “menu of services” provided to individuals with
disabilities. Once these relationships are forged, personnel in disability offices working with students with ASD can offer supports that cater specifically to the needs of each individual. For example, if the student has difficulty with executive functions such as time management and organization, the disabilities office can work with personal counseling to provide the appropriate supports and develop a plan to aid in the development of these skills. Longtin (2014) also suggests that higher education institutions utilize these relationships to increase campus-awareness and training not only for personnel working in the disabilities office, but the entire college community.

Longtin (2014) provides a detailed description of how higher education institutions can use their existing infrastructures through collaboration and coordination to support students with ASD. However, the author does not examine how the supports provided through this collaboration have improved the experiences of college students on the spectrum. Furthermore, in the future directions section, Longtin (2014) suggests that programs developed for students with ASD conduct evaluations to better understand the success of certain aspects of the program such as “support groups, completion of course requirements, development of career plans, successful integration into the college community, retention rates, and postgraduate outcomes” (p. 70).

**Program Standards**

As more higher education institutions develop programs serving college students on the spectrum, they will look to the literature for best practices and program standards. While there are no established program standards for programs specifically serving students on the spectrum, there are standards serving all college students with disabilities. In 1999, AHEAD established a research-based guide for higher education institutions and government agencies to utilize when
planning and developing disability service programs (Shaw & Dukes, 2001). The standards stipulate a systematic approach for providing services to students with disabilities that goes beyond the guidance offered by federal laws, institution organization/structure, and funding sources. The goal of the program standards is to provide consistency for the development of supports for college students with disabilities across the country. AHEAD’s program standards are composed of twenty-seven standards across nine categories: (1) consultation/collaboration/awareness, (2) information dissemination, (3) faculty/staff awareness, (4) academic adjustments, (5) instructional interventions, (6) counseling and advocacy, (7) policies and procedures, (8) program development and evaluation, and (9) training and professional development. These standards are valuable to higher education institutions interested in developing programming for students with ASD.

**Summary**

The last decade has experienced a significant increase in the enrollment of students with autism spectrum disorder in postsecondary institutions. The research provided in this literature review identifies the challenges faced by students with ASD in postsecondary institutions and the importance of addressing their needs. The common themes identified in this literature review are social skill development, transition planning, campuswide awareness, and the development of professionals working with this population. The growth in enrollment of students with ASD in postsecondary institutions suggests that there will be an increase in research as practitioners and researchers attempt to serve students with ASD. Several researchers have suggested the use of collaborative, multi-disciplinary approaches to support the needs of college students on the spectrum. However, an examination of these approaches is needed to understand which strategies
are successful. Future research on college students with ASD should focus on examining how these programs improve the educational outcomes of this population.
Chapter 3: Methodology

The Collaborative Autism Support Program (CASP) serves college students on the autism spectrum at a public, 4-year liberal arts college. CASP is a collaborative interdisciplinary program that provides services through the Office for Students with Disabilities; the Learning Center (tutoring); Personal Counseling Office; Magner Career Center; Speech, Language, and Hearing Department; and the Health Clinic. This program is unique because it utilizes a holistic approach to providing services that is based on the needs of the individual as opposed to providing a pre-arranged set of services to students on the spectrum. The goal of the program’s services is to help students meet their academic and social outcomes while considering that these outcomes are different for each individual. This approach is important because autism is a disorder that affects individuals differently, and students need a customized approach to the services they receive. Given the wide range of services this program provides to students with ASD, this research provided us with an opportunity to examine the impact of several different services on the educational outcomes of this population.

Qualitative research was the primary approach for this study because it allowed the researcher to thoroughly evaluate the program by understanding the meaning of participant actions through their own words. Since CASP is a highly individualized program, it was more appropriate to collect qualitative data to understand the program from the study participant’s perspective (Patton, 1990). This methodology allowed for a rich, thick, detailed description of the phenomenon under investigation through participant experiences (Creswell, 2012; Merriam, 2009).
Purpose Statement

The purpose of this research study was to evaluate a newly formed interdisciplinary collaborative support service program serving college students with autism at a four-year public college in the Northeast region of the United States. This formative program evaluation collected information about the activities and characteristics of CASP to assess if the program is meeting its goals and made recommendations for improvements to aide with developing the program.

Research Questions

1. How does the interdisciplinary Collaborative Autism Support Program at Brooklyn College serve college students with autism spectrum disorder?
   a. How do the services and interventions provided by the program’s six student service departments align with intended educational and social outcomes for students?
   b. What are the experiences of students with Autism Spectrum Disorder participating in the Collaborative Autism Support Program at Brooklyn College?
   c. How does the training of graduate student mentors meet the intended program goal of increasing social skills and adapting to the college environment for students on the spectrum?
   d. How does in-service training for faculty, students, and administrators align with the program’s outcome to increase campus awareness of the needs of individuals with autism spectrum disorder?

2. How does the Collaborative Autism Support Program align with Association of Higher Education and Disability’s program standards?
3. How can the Collaborative Autism Support Program be improved?

**Research Design**

Qualitative research allows for a rich, thick, detailed description of the phenomenon under investigation through participant experiences (Creswell, 2012; Merriam, 2009). The aim of this research study was to understand the services and interventions selected to support college students with autism spectrum disorder, and qualitative research allowed this investigation to occur in the natural setting (Creswell, 2012). The rich description in qualitative research also allowed for an examination of multiple perspectives that provided the researcher with a holistic picture of the problem and possible solutions. The complexity of the experiences of college students with autism and attempts to support their individual needs can only be explored by speaking with the people working directly with this population. As a result, qualitative research was the best approach for this study because it allowed the researcher to understand the meaning of participant actions through their own words.

**Research Tradition**

Qualitative program evaluation was the selected research approach for this study because it allowed for an examination of the identified solutions and interventions. The purpose of this research study is to examine elements of CASP as it seeks to serve students with autism spectrum disorder, and program evaluation provided the perfect method to accomplish this task. The core function of program evaluation is to help understand what the program does (Weiss, 1998; Rossi, Lipsey, & Freeman, 2007). According to Weiss (1998), program evaluation allows researchers to associate particular elements or features of a program with intended or identified outcomes. A theory-driven program evaluation perspective, also known as program theory, was the framework guiding this investigation (Lipsey, 1993). Program theory provided a conceptual
framework for examining the development, implementation, and interpretation of this multidisciplinary program as it attempts to meet the various needs of college students on the spectrum. Additionally, AHEADs Program Standards were used as a guide to evaluating this program.

This study utilized a formative program evaluation methodology as it allowed for an examination of interventions and aides with developing a newly created program such as CASP (Patton, 1990; Weiss 1998). Weiss (1998) defines program evaluation as “the systematic assessment of the operation and/or the outcomes of a program or policy, compared to a set of explicit or implicit standards, as a means of contributing to the improvement of the program or policy” (p. 4). Formative evaluation was selected over summative evaluation because the program is in an early phase and the focus is on developing the program instead of solely examining the effectiveness of the program. The goal of formative program evaluation is to provide program administrators and staff with the feedback required to develop programming. The use of formative evaluation also allowed others to use the research to adopt similar programs at other institutions. For all of these reasons, program evaluation was selected because it aligns with the research purposes of examining the impact of selected services and interventions provided through CASP and offered research to inform the development of similar programs.

**Research Paradigm**

The pragmatist paradigm was used in this program evaluation, as it allowed for a practical examination of the problem and an identification of “what works” (Creswell, 2012). Ormerod (2006) stated that “the core idea of pragmatism [is] that beliefs are guides to actions and should be judged against the outcomes rather than abstract principles” (p. 892). Pragmatism allows for the examination of the rationale behind the services and interventions of CASP. The
research questions sought to understand “what works” when serving students with autism spectrum conditions (Creswell, 2012; Patton, 1990). The research questions went beyond understanding the phenomenon to examining solutions identified to support college students on the spectrum. According to Creswell (2012), pragmatism focus[es] on the outcomes of the research – the actions, situations, and consequences of inquiry – rather than antecedent conditions. Program evaluation aligned with the pragmatism paradigm, which seeks solutions to real-life problems. Program evaluation is applied research that informs research, enhances decision-making, and solves social problems (Patton, 1990).

In the pragmatist view, the role of the researcher is to seek solutions to the problem under investigation. Unlike other interpretive qualitative approaches, the role of the researcher is not to interpret the lived reality of the study participants, but to examine real-life solutions to the problem. The pragmatist view provided the researcher with the ability to use multiple data collection methods to gain knowledge about these solutions. Additionally, the pragmatist view provides researchers with the flexibility required to select research methods that effectively meet the purpose of the research study (Creswell, 2012). In other words, the pragmatist view allowed for the selection of a research method that examined the individual needs of college students with autism spectrum disorder and identify real-life solutions to support them.

**Role of Researcher**

According to Creswell (2012), the role of the researcher is to be a careful observer, question everything, and think inductively. The researcher must engage with the study participants to understand the problem of investigation through observations, interviews, and the review of program documents. Since pragmatism requires an in-depth analysis of the phenomenon and solutions to the problem, it is important for the researcher to establish a rapport
with the participants in order to gain the trust needed for them to share their knowledge and experiences. The evaluator saw herself as a partner working with program staff to aid in the attainment of program goals. Weiss (1998) suggests that the program evaluator should view her role as more than just collection and reporting data about the program, but as a collaborator with the program staff to formulate ways to improve the program. Additionally, the researcher must understand his or her experiences and biases as they relate to the problem under examination because they will impact how data is collected, analyzed, and interpreted.

**Research Procedures**

**Participants.** The participants in this study were Collaborative Autism Support Program student participants and college personnel working directly with college students on the autism spectrum receiving services through the program. CASP is a collaborative interdisciplinary program with personnel from the Offices for Students with Disabilities; Learning Center (tutoring); Personal Counseling Office; Career Center; Speech, Language, and Hearing Department; and the Health Clinic. CASP participants are students enrolled at Brooklyn College who are diagnosed with high-functioning ASD. Students participating in CASP receive services through the six student service departments and the mentoring program.

Stratified purposeful sampling was used to select participants for this study. While it was a homogenous sample, or purposeful sample based on a site or membership, participants were sampled from separate service departments, faculty, mentor, and student groups (Creswell, 2012; Patton, 1990). All participants were over the age of 18 and enrolled in the program or employed by the College. Approximately 13 participants were interviewed in this program evaluation. Four CASP students were purposefully sampled to participate in this program evaluation.
Additionally, at least one representative from each service department, faculty, and mentor group was invited to participate in the study. The CASP coordinator confirmed that staff/faculty participants worked with the program in one of the six capacities mentioned above or the mentor program. Lastly, the program coordinator/director of the center for students with disability services was included in the participant group, as well as the former program coordinator from the main CUNY campus.

**Research Site, Recruitment, and Access**

CASP is part of the Division of Student Affairs at a public 4-year college. Since all of the six departments composing CASP report to the vice president of student affairs, permission was secured from the vice president. CASP operates out of the Center for Students with Disability Services, so this researcher also gained permission from the director. A formal letter inviting college personnel to participate in the study was disseminated through the director of the Office for Students with Disability Services (Appendix B). The letter provided interested participants with a brief explanation of the purpose of this study, participation criteria, and contact information. Interested participants confirmed their interest in the study to the student researcher. Incentives were not provided, as the program coordinator expressed her desire to conduct an evaluation of the program.

**Protection of Human Subjects**

As a research study that includes human participants, it was subject to review by the Institutional Review Board (IRB) at Brooklyn College and Northeastern University. IRB’s are responsible for ensuring that research conducted on human subjects is ethical and takes measures to protect the rights of research participants. The three ethical principles considered when
conducting research involving human participants are respect for persons, beneficence, and justice. The IRB is responsible for ensuring that research adheres to the three ethical principles stipulating that researchers must treat participants as autonomous individuals, take measures to protect those with diminished autonomy, conduct research that does not harm, benefits the target population, and ensures equitable and ethical treatment of participants (The Belmont Report, 1979).

The participants are experts in their respective fields, and they contributed greatly to a study on programming for college students with autism spectrum. Their opinions and experiences were respected and valued by providing them with an opportunity to share their experience. Participants received a thorough description of the study procedures and what was expected of them. They were also provided with an opportunity to ask questions about the study. Participants were treated as contributors to the study and this exploration of the phenomenon on college students with ASD.

**Informed Consent.** The informed consent provides participants with an opportunity to learn more about the study and the risks and benefits associated with their participation (Creswell, 2012). Informed consent was retrieved through a 20-minute face-to-face conversation, in which the researcher discussed the purpose and procedures of the study to participants. The informed consent indicated that the interview would take place in a neutral location and last approximately 45 to 60 minutes. Participants were informed that they were under no obligation to participate in the study and were free to leave the study at any time. Participants were given an opportunity to ask questions at the end of the description of the study. Participants signed with full knowledge of the purpose and procedures of the study, and associated risks and benefits, and confirmed that they wanted to participate in the study and had not been coerced. Research has
shown that an organized, well-written, and simplified consent form can increase participant understanding of the study’s risks and benefits (Dunn & Jeste, 2001). In addition to a discussion of the risk, the informed consent included information about confidentiality.

**Risks and Confidentiality.** The identification of risks and a discussion of measures to ensure confidentiality are important components in the information required in the research process. Creswell (2012) stated that there are two major considerations when determining the “extent of the review and the concern of the institutional review board” as it relates to providing required information (p. 148). Researchers must (1) assess the level of risk study participants will be exposed to, and (2) review whether they are studying a vulnerable population. The participants in this study were college students receiving services through CASP and personnel responsible for creating and supporting a program serving college students with autism spectrum conditions. There were no known risks or discomforts associated with this study. Students participating in CASP are high-functioning adults and willing contributors to the study. All responses remained confidential to protect the participants’ identities. Additionally, this researcher considered the fact that college personnel in this study may have discussed information relevant to the program’s target population. Therefore, appropriate steps were taken to protect this population and reduce personnel anxiety about sharing information.

An important risk associated with program evaluation is existing conflicts of interests when evaluating a program in which stakeholders have a financial interest. CASP receives funding from an independent agency to improve the educational experiences of students on the autism spectrum. Study participants might have been hesitant to provide information if they thought that it could impact financial contributions made by stakeholders. CASP participants might have also felt obligated to provide positive feedback about the program because of
established relationships with program administrators. Additionally, college personnel working with this program could have experienced some discomfort discussing feelings or information that may conflict with the mission or goal of the program. Staff members working with the program may have feared retaliation for expressing negative opinions of the program’s effectiveness, services, and/or interventions. Furthermore, since the researcher currently works at the research site in a different division, participants may have been concerned that information they provided in their interview could be revealed to program administrators.

For the reasons stated above, it is important to implement measures to protect participant confidentiality and reduce risks. A rapport was developed with all participants and they were encouraged to share their ideas about the program without fear of losing credibility with their immediate supervisor (Shenton, 2004). In addition to the informed consent process in which participants were ensured that they have the ability to withdraw at any time, the researcher encouraged participants to be honest about their concerns with confidentiality and assured them that their responses would remain confidential. The focus of the proposed study is on the program’s services and interventions. Therefore, staff members did not have to provide the actual names of program participants. Pseudonyms were also used in place of the names of staff members and students as an additional step to protect confidentiality. Additionally, interviews were located at a neutral location to protect participant identities.

**Data Collection**

Program evaluations utilized multiple data collection strategies such as interviews, observations, document collection, archival records, and physical artifacts. According to Patton (1990), program evaluation requires a combination of data collection methods to increase the depth and strength of the analysis. More importantly, given the complexity of the six-department
interdisciplinary program under investigation, it was necessary to use multiple methods to understand the different dimensions of the program (Merriam, 2009). Therefore, this study collected data through interviews, observations, and document review.

**Interviews.** According to Merriam (1998), interviews are the most common form of qualitative data collection as they allow participants to communicate their feelings, beliefs, and actions about the problem under investigation. Qualitative data was collected through semi-structured interviews conducted by the student researcher. The interview protocol consisted of questions focused by the research questions examining how CASP serves college students with autism. Interview questions specifically focused on the six student service departments of CASP, the mentoring program, actions implemented by the program to improve campus awareness of the experiences of students on the spectrum, and student perceptions of their experience in the program.

In-person interviews were conducted at a time and location convenient to participants. The interview was conducted in two parts: initial interview (which discussed the informed consent process, confidentiality, and risks) and the formal interview. The interview was audio-recorded to ensure that participant comments were accurately reported. The second part of the interview lasted approximately 60 to 90 minutes. The interviews were composed of semi-structured questions based on the topic, Lipsey’s Logic Model, and AHEADS Program Standards (Appendix C).

Prior to implementing interviews, the questions were pilot tested to ensure that the questions were articulated effectively and understood by the participants (Weiss, 1998). These interview questions were tested on an individual outside of the possible participant sampling
pool, but with similar characteristics to the target population. This process allowed the researcher to identify questions that need additional clarification. The interview questions were then revised for use with the target population.

After the interviews were conducted, they were transcribed by a third party transcription service. Then a password-protected file was emailed to study participants with a transcription of their interview. Participants were asked to review this document and email corrections and/or questions. Participants were allowed an opportunity to clarify and expand on statements from the initial interview and confirm that the data provided in the transcription were accurate.

Observations. On the first visit, the researcher spoke with the site coordinator to discuss a formal agreement of obligations, expectations, confidentiality, and the validation of observation descriptions. The student researcher observed the physical setting, participant interactions, activities, and conversations (Merriam, 1998) (Appendix D). Additionally, the researcher took note of subtle factors such as non-verbal communication and the overall atmosphere of the physical space.

Observations were conducted at the Center for Student Disability Services (the home of CASP) during staff and/or planning meetings to understand the design and implementation of the program to address the first research question. The schedule of observations depended on the office’s scheduled meetings. The student researcher had a non-participant role in these meetings and was only present as an observer (Merriam, 1998). At the beginning of these meetings, the researcher was introduced as a doctoral student conducting a study of the program and meeting participants were assured that all information discussed would be kept confidential. Meeting participants were informed that actual names and credentials would not be recorded and would
be replaced by a pseudonym. Field notes were kept on the site observations, including an illustration and written description of the office and the locations where services were provided.

**Documents, archival records, and physical artifacts.** Document collection included a review of electronic and written communications between college personnel working with the program to provide information about the services and interventions provided by CASP. This documentation included letters, memoranda, e-mail correspondences, agendas, minutes of meetings, notices of events, fliers, recruitment materials, proposals, progress reports, internal evaluations, and information provided on the institution and/or program’s website. Since these documents included confidential information, the Center for Student Disability Services was allowed to redact student information to protect their privacy.

Archival records included organizational records such as budget reports, service records, personnel records, and organizational charts. These documents provided information about the resources and services provided to college students on the autism spectrum through CASP. Again, student information was redacted to protect student confidentiality.

**Data Storage**

Data from the interviews, observations, documentation review, and field notes were stored electronically on a password-protected computer. Paper documents were stored in a locked file cabinet and only the researcher had access. Copies of the electronic files were saved on a secured flash drive and stored in the secured file cabinet. Additionally, electronic documents were stored in MAXQDA for analysis on the password-protected computer. All names were removed from documents and replaced with pseudonyms for confidentiality.
Data Analysis

Logic Model. Program evaluation generally uses the adopted program theory as a guide to analyzing data. In this program evaluation, Lipsey’s (1993) conceptual framework was the operationalized program theory logic model that guided the investigation of CASP. Data from interviews, questionnaires, observations, and program documentation were analyzed by coding and categorizing by the six elements of Lipsey’s logic model. This conceptual framework allowed for a detailed examination of the program’s inputs, processes, and outputs. Lipsey (1993) identified six elements of the logic model: problem definition, exogenous factors, critical input, mediating processes, implementation issues, and expected output.

The program definition/target population element includes any data collected about the experiences of college students on the spectrum, and the development of services to support them. The second category analyzed exogenous factors such as parents, faculty, staff, administration, institution culture, and organization structure as they related to the experiences of college students with ASD. The next three elements aided in the analysis of the inputs, processes, and implementation issues of the program. Data about the staffing, funding, services, strategies, interventions, and resources (or lack thereof) were categorized in these elements. Lastly, the expected output element was divided into three sections: short-term outcomes, intermediate outcomes, and long-term outcomes. Short-term outputs include the development of time management, study, and organization skills. Intermediate outputs were the development of self-advocacy and social skills, along with campus awareness. Lastly, long-term outcomes included degree completion and career planning. The program administrators identified these outcomes as goals for the participants of this program and the college community. Based on the logic of program theory, there needs to be a link between the inputs, processes, and outputs (Lipsey,
The figure below illustrates all six categories of Lipsey’s logic model and the established relationship. The problem definition/target population and exogenous factors inform the inputs and development of processes and possible implementation issues, which translate to the expected output.

Figure 3.1. CASP Program Evaluation Logic Model (Lipsey, 1993)

*The variables identified in the figure are not an exhaustive list and additional variables may be identified through the data collection and analysis process.

AHEAD program standards. This program evaluation analysis was also guided by AHEAD’s program standards (Shaw & Dukes, 2001). AHEAD approved 27 program standards across 9 categories required to guide the development of support for individuals for disabilities regardless of institution type, funding source, location, or admissions policy. Here is a breakdown of the 27 program standards within the 9 categories (Shaw & Dukes, 2001):
1. Consultation/Collaboration/Awareness
   1.1 Serve as an advocate for students with disabilities to ensure equal access.
   1.2 Provide disability representation on relevant campus committees (e.g., academic standards, policy development).

2 Information dissemination
   2.1 Disseminate information through institutional publications regarding disability services and how to access them.
   2.2 Provide services that promote access to the campus community (e.g. TDD’s, alternative materials formatting, interpreter services, adaptive technology).
   2.3 Provide referral information to students with disabilities regarding available campus and community resources (e.g. assessment, counseling).

3 Faculty/staff awareness
   3.1 Provide consultation with faculty regarding academic accommodations and compliance with legal responsibilities, as well as instructional, programmatic, physical, and curriculum modifications.
   3.2 Provide consultation with administrators regarding academic accommodations and compliance with legal responsibilities, as well as instructional, programmatic, physical, and curriculum modifications.
   3.3 Provide individualized disability awareness training for campus constituencies (e.g. faculty, staff, administrators).
   3.4 Provide feedback to faculty regarding general assistance available through the office that provides services to students with disabilities.

4 Academic adjustments
   4.1 Maintain records that document the plan for the provision of selected accommodations.
   4.2 Determine, with students, appropriate academic adjustments consistent with the students’ documentation.
   4.3 Have final responsibility for determining effective academic accommodations that do not fundamentally alter the program of study.

5 Instruction interventions
   5.1 Advocate for instruction in learning strategies (e.g. attention and memory strategies, planning, self-monitoring, time management, organization, problem-solving).
6 Counseling and Advocacy
6.1 Assist students with disabilities to assume the role of self-advocate

7 Policies and procedures
7.1 Develop written policies and guidelines regarding procedures for determining and accessing “reasonable accommodations.”
7.2 Establish guidelines for institutional rights and responsibilities with respect to service provision (e.g. documentation of a disability, course substitution/waiver).
7.3 Establish guidelines for student rights and responsibilities with respect to service provision (e.g. documentation of a disability, course substitution waiver).
7.4 Develop written policies and guidelines regarding confidentiality of disability information.
7.5 Encourage the development of policies and guidelines for setting a formal complaint regarding the determination of a “reasonable accommodation.”

8 Program development and evaluation
8.1 Provide services that are based on the institution’s mission or service philosophy
8.2 Coordinate services for students with disabilities through a full-time professional.
8.3 Collect student feedback to measure satisfaction with disability services.
8.4 Collect data to monitor use of disability services.
8.5 Report program evaluation data to administrators.

9 Training and professional development
9.1 Provide disability services staff with ongoing opportunities for professional development (e.g. conferences, credit courses, membership in professional organizations).
9.2 Provide services by professional(s) with training and experience working with college students/adults with disabilities.
9.3 Adhere to the Association of Higher Education and Disability (AHED) Code of Ethics. (pp. 65-67)

Data Coding. Data coding was conducted in two cycles: the first cycle consisted of open coding and the second cycle used axial coding. Open coding involved an initial review of interview transcripts to identify terms to summarize the data from the interviews. For this analysis, descriptive coding described participant actions, and in vivo coding explored
participant realities (Saldaña, 2013). Descriptive coding summarized primary topics that evolved in the data and in vivo coding was used as a method of quoting participant statements to express their experiences (Creswell, 2012; Saldaña, 2013). After coding the data from the transcript, codes were examined using pattern methods such as similarities, differences, and frequency. The second cycle of the analysis utilized axial coding and the identification of themes, categories, and subcategories based on these codes, the elements of Lipsey’s logic model, and the program standards.

**Trustworthiness**

The three main procedures used to increase trustworthiness in this study were thick rich description, triangulation, and member checking. Triangulation is the use of different data collection methods such as observations, interviews, and documentation review to confirm study results (Creswell, 2012; Merriam, 2009). Program evaluation designs use multiple data collection methods to increase reliability of findings (Weiss, 1998). With increased reliability, the results of the study can be generalized. The use of a wide range of participants such as program personnel, faculty, mentors, and students was another form of triangulation that allowed for the verification of information through different perspectives (Shenton, 2004). Additionally, the use of an in-depth detailed description provided readers with the information needed to ensure transferability.

Member checking was another important strategy used to increase the trustworthiness of interviews in this study. After the initial interviews were conducted, participants were asked to review a transcribed version of their responses for accuracy. A second interview helped clarify and expand on any statement in the initial interview and provided participants with an opportunity to confirm that the data included in the transcription is accurate.
Summary

This study methodology utilized a qualitative formative program evaluation of the Collaborative Autism Support Program at Brooklyn College (Weiss, 1998). The purpose of the study was to evaluate a newly formed interdisciplinary collaborative support service program serving college students with autism at a four-year public college in the Northeastern United States. This formative program evaluation collected information about the activities and characteristics of CASP to assess if the program was meeting its goals and make recommendations for improvements to aid with developing the program. The participants in this study were chosen using stratified purposeful sampling (Creswell, 2012; Patton, 1990). Lipsey’s (1993) conceptual framework was the operationalized program theory logic model that guided the investigation of CASP. This logic model allowed for a detailed examination of the program’s inputs, processes, and outputs. Lipsey’s conceptual framework, along with AHEAD’s program standards (Shaw & Dukes, 2001) guided the analysis and overall examination of CASP.
Chapter 4: Summary of Findings

Overview

The purpose of this research study was to evaluate a newly formed interdisciplinary collaborative autism support program (CASP) serving college students with autism. Data were purposefully collected from a program developed at Brooklyn College, a four-year public, senior college that is part of the City University of New York (CUNY). The program is composed of six service departments, a mentor program, and training programs for faculty and staff members to improve the social and academic experiences of college students with autism spectrum disorder (ASD). The findings of this chapter will provide detailed information about CASP through a formative program evaluation. This chapter will examine collected information about the activities and characteristics of CASP to assess if the program is meeting its goals mid-cycle and make recommendations for improvements to aid with developing the program.

The first section of this chapter will briefly discuss the research questions, participants, and the research site. The remainder of this chapter will be divided into two main sections based on the research questions. To answer, the research questions and the findings will be discussed through Lipsey’s program theory describing the programs inputs, processes, and outputs. The first section will focus on the six service departments of CASP, the mentor program, and in-service training for faculty and staff members (inputs). First, a description of the department will be provided, as well as a report of the data collected on the services and interventions provided by the department to students in the CASP program (processes). This section will specifically focus on how the reported services and interventions provided by the different units of CASP align with the identified educational and social outcomes for Brooklyn College’s students with ASD (outputs). Next, this section will report the data collected on the use of graduate student
mentors to increase social skills and adaptation to the college environment. Again, the reported services and interventions will be described in relation to the intended outcomes identified by the program. Lastly, a description of the data collected on in-service training for faculty, students, and administrators will be reported in context of the intended outcome of increasing awareness. Within this first section, any data in connection with the Association of Higher Education and Disability’s (AHEAD) program standards will be reported. In the second section, data will be provided from the four student participants. These case studies will provide information about the experiences of students in CASP.

**Research Questions**

1. How does the interdisciplinary Collaborative Autism Support Program at Brooklyn College serve college students with autism spectrum disorder?
   a. How do the services and interventions provided by the program’s six student service departments align with intended educational and social outcomes for students?
   b. What are the experiences of students with Autism Spectrum Disorder participating in the Collaborative Autism Support Program at Brooklyn College?
   c. How does the training of graduate student mentors meet the intended program goal of increasing social skills and adapting to the college environment for students on the spectrum?
   d. How does in-service training for faculty, students, and administrators align with the program’s outcome to increase campus awareness of the needs of individuals with autism spectrum disorder?
2. How does the Collaborative Autism Support Program align with Association of Higher Education and Disability’s program standards?

3. How can the Collaborative Autism Support Program be improved?

Participants

The data collected for this study was based on 13 participant interviews. The participants in this study were all affiliated with the Collaborative Autism Support Program as a student participant or college personnel working directly with college students on the autism spectrum receiving services through the program. CASP is a collaborative interdisciplinary program with personnel from the Center for Student Disability Services; Learning Center (tutoring); Personal Counseling Office; Career Center; Speech, Language, and Hearing Department; and the Health Clinic. A representative from each of these departments, excluding the Learning Center, was interviewed for this study. A representative from the Learning Center was not included because it was revealed that the role of the Learning Center is to solely provide services to students referred by the program and they have limited contributions to the overall operation of CASP. In addition to these five representatives, the former CUNY coordinator for Project Reach, a project developed at CUNY to serve the growing population of college students on the autism spectrum disorder and increase campus awareness of the needs and experiences of this population, was interviewed in place of the representative from the learning center. An interview with the supervisor of the graduate student mentor program was coordinated as well as interviews with two graduate student mentors.

Finally, four interviews were scheduled with student participants in CASP. CASP participants are students enrolled at Brooklyn College, diagnosed with high-functioning ASD. Of
the four student participants, two met with me on a one-on-one basis for their interviews, one coordinated her interview via email through her assigned graduate student mentor, and the other met with me in the presence of a counselor working with the CASP program. Both of these latter participants stated that they did not feel comfortable meeting with me on their own and wanted to answer the interview questions through someone they have already established a relationship with.

**Data Coding**

Data coding was conducted in two cycles: the first cycle consisted of open coding and the second cycle used axial coding. Initially, the interview transcripts were reviewed thoroughly to increase familiarity. Then open coding was used when reviewing the interview transcripts, to identify and summarize the data from the interviews. For this analysis, descriptive coding portrayed participant actions, and in vivo coding explored participant realities (Saldaña, 2013). After coding data from the transcript, codes were examined using pattern methods such as similarities, differences, and frequency. The second cycle of the analysis utilized axial coding and the identification of themes, categories, and subcategories based on these codes, the elements of Lipsey’s logic model, and the program standards.

**Section One**

Lipsey’s (1993) program theory provides the conceptual framework to aid with the evaluation of CASPs selected services and interventions in relation with expected outcomes for program participants. This theory allows for an evaluation of the link between program inputs, processes, and outputs. Lipsey’s (1993) operational model provides a framework for examining the alignment of the problem, target population, interventions and services implemented, and the desired outcome. When examining CASP, this theory was used to understand how identified
services and supports aligned with intended outcomes for students on the autism spectrum.

Figure 4.1 illustrates the six elements of Lipsey’s (1993) conceptual logic model framework for CASP.

Figure 4.1. Complete CASP Program Evaluation Logic Model

**Target Population**

The target population of CASP was described by program staff members and contributors as college age students with a diagnosis of an autism spectrum disorder attending Brooklyn College’s Collaborative Autism Support Program (CASP) supports the academic and social needs of students on the autism spectrum.
College. All students participating in CASP have self-disclosed a diagnosis of autism, Asperger’s syndrome, or autism pervasive development disorder not otherwise specified (PDD-NOS) to the Center for Student Disability Services. Students participating in CASP have a range of academic, social, and executive function abilities. There are currently 17 students enrolled in the CASP program.

**Background/Exogenous Factors.** CASP is a program located at Brooklyn College, a large public college in an urban setting serving more than 17,000 students. Brooklyn College is part of the City University of New York (CUNY), a 24-institution university system, including 11 senior colleges. Project REACH is a CUNY Central Office of Student Affairs Disability Services (COSA) initiative developed to serve the growing population of college students on the autism spectrum (REACH Coordinator, personal communication, December 30, 2015). The CUNY Central offices involved applied for a grant (FAR Fund) to fund the project. The Project REACH coordinator shared that during its second year of funding,

CUNY Central Office Project REACH developed a Request for Proposals (RFP) distributed to all 24 CUNY campuses and also to CUNY student organizations. These “mini-grants,” as they were called, were intended to develop best practices and innovative model projects, to build CUNY’s capacity to serve students with ASD” (Personal communication, December 30, 2015).

As a result, four senior colleges received grant funding from REACH. Brooklyn College was one of the four colleges to receive funding based on its RFP. Funding is based on an annual grant that the CASP program must apply for.

CASP is a multidisciplinary, collaborative program designed to use existing supports and services to serve the target population. Several Brooklyn College service departments collaborate
to provide services for CASP participants. There is no physical office for the program so
participants utilize the Center for Student Disability Services when needed.

**Inputs: Program Resources, Processes, Outputs**

**Center for Student Disability Services.** The Center for Student Disability Services at
Brooklyn College is responsible for providing services for students with disabilities and
determining appropriate and reasonable accommodations. The mission of the Center for
Disability Services is to ensure that students with disabilities have equal access to all campus
facilities, curriculum, and activities. The program’s objective focuses on providing students with
reasonable disability-related accommodations and the opportunity to maximize their academic
success at Brooklyn College. The goal is to ensure an inclusive environment while maintaining
and enhancing Brooklyn College’s academic excellence by providing students with disabilities
the opportunity to achieve their highest possible academic potential
(depthome.brooklyn.cuny.edu/disability/).

**Inputs.** Some of the services provided by the department are preadmission interviews,
priority registration, individual counseling, auxiliary aids (readers, writers, and laboratory
assistants), individual testing accommodations and arrangements, advocacy, and direct liaison
with offices that provide college services (depthome.brooklyn.cuny.edu/disability/). The center’s
staff also organized opportunities for CASP students to interact in group activities, such as
attending the Asperger Syndrome and High Functioning Association (AHA) conference, pizza
parties, yoga workshops, and scheduled lunches. At the AHA conference, students attended
workshops that focused on educating adolescents and adults with autism spectrum disorder on
how to become more independent. All of the scheduled events provided CASP participants with
an opportunity to socialize with others.
The Center for Student Disability Services houses the Collaborative Autism Support Program and coordinates the collaboration with the other student service areas within the program. The director of the Center for Student Disability Services is currently the principal investigator/coordinator of CASP. The director takes on the role of the program supervisor and oversees the hiring of the mentor supervisor and graduate student mentors, coordinates and chairs monthly meetings with the other service departments, oversees program activities, manages the budget, and writes the annual evaluation report to the FAR Fund, which funds Project REACH and CASP. In addition to these responsibilities, the program coordinator is responsible for the intake of CASP student participants, coordinating the signing of a release that allows for the sharing of confidential student information to collaborating departments for the sole purpose of providing coordinated services to program participants.

There are approximately 17 students currently participating in CASP. Many of these students are registered with the Center for Student Disability Services. According to the director, some of these students receive traditional accommodations such as more time on an assignment or a separate location for an examination, but many of them need individual nontraditional accommodations such as an escort to help them deal with the fear of walking into a classroom, a separate location in the classroom because they may get up frequently and disrupt the classroom, or the ability to bring a specific sensory item to class to help them focus on the lecture. Often, the accommodation requires consultation with faculty to educate them on the needs of students with autism spectrum disorder and to help them understand atypical behaviors presented in the classroom. During these consultations, many faculty members have communicated that specific students on the spectrum have excessive questions or “are in my personal space,” and they don’t
know how to handle the situation. The Center for Student Disability Services will train faculty members with specific strategies when working with students on the spectrum.

An integral responsibility of the Center for Student Disability Services is to provide services to CASP participants by coordinating and collaborating with the other student services departments. The department representatives meet on a regular basis to discuss the progress of the program’s participants. Generally, the mentor supervisor will bring up any issues or concerns that may have arisen during interactions with the participants and their mentors. During these meetings, all department representatives provide their feedback on the situation(s) presented. However, the mentor supervisor works closely with director of the Center for Student Disability Services and the director of personal counseling. Both the mentor supervisor and the director of Personal Counseling are licensed psychologists and can provide the team with strategies to appropriately deal with each situation. This collaboration is extremely important for CASP participants, as they have diverse and unique needs that often require the expertise of different services areas.

**Processes.** The director of the Center for Student Disability Services provided an example of how the departments collaborate to provide services. A student came to the attention of the program’s administrators through the Behavioral Educational Support Team (BEST), a committee composed of representatives from several student service areas to promote a “civil campus environment and support students who may be in distress” (http://www.brooklyn.cuny.edu/web/about/offices/studentaffairs/offices/judicialaffairs/best.php). A student was referred to BEST because she was exhibiting some behavioral issues in the classroom. Since several of the departments of BEST are part of CASP, they were able to identify the student and work together to develop a strategy to address the exhibited behaviors.
The Center for Student Disability Services, the Health Clinic, and Personal Counseling Center all had previous interactions with the student and knew that the student would often wander off during and between classes. Personal Counseling and the Health Clinic also knew that wandering was a symptom of anxiety. Collaboratively, the department representatives decided that the student would benefit from a shadow/escort that would reduce wandering, but also give the student someone to speak with when they were anxious (Personal communication, director of Center for Student Disability Services, October 9, 2015). The ultimate goal was to address the behavior so the student could successfully attend courses.

**Outputs.** Overall, the director for the Center for Students with Disabilities believes that CASP has been instrumental in improving the social and academic skills of college students on the spectrum:

I have seen students who participated in the program from the beginning. I have seen how they have been able to gain the skills necessary to feel empowered by utilizing the resources of the program. Participating in the activities, seeing the same people, forming relationships, finding out that you have the same special interest as somebody else made them feel empowered. Empowered enough that I have seen students become very active in the community outside of just working and being with students on the spectrum or students with a disability but they’re very active in student life. To see that has been, oh my gosh, it’s been incredible to see where students were and to see where they are.

(Personal communication, October 9, 2015)

**Improvements.** The director for the Center for Student Disability Services shared several actions that could improve CASP. First, since CASP is primarily funded by the FAR Fund on an
annual basis, consistent funding should be provided through the college instead of an outside 
source to sustain the work accomplished and the future of the program. According to the 
director, the program could also benefit from a full-time coordinator dedicated solely to CASP 
for the purpose of improving outreach, awareness, and planning social and academic events.

Additional funding would also improve the process for hiring mentors in a timely manner 
that allows appropriate planning. Currently, mentors are funded each semester based on available 
funding from the FAR grant. According to a Spring 2015 budget report written by the director of 
the Center for Student Disability Services, in the fall of 2014, funds were not made available 
until November 25th and the semester ended on December 13th. CASP participants were invited 
to register for CASP in early October. CASP coordinators then had the difficult task of hiring 
graduate student mentors halfway through the semester when they had already made other 
commitments. It would be more effective for program participants to be assigned a mentor at the 
beginning of the semester, so that they can establish a strong relationship that will assist with 
meeting goals. Unfortunately, at this point, participants spend a semester trying to build a rapport 
with their mentors and by the time they start to accomplish anything the semester is over.

Another suggested improvement is to develop a website to help increase awareness and 
other marketing efforts. Currently, CASP only has an internet presence on the CUNY REACH 
page that briefly mentions that a program for college students with ASD is housed at the 
Brooklyn College campus 
(http://www.cuny.edu/about/administration/offices/sa/services/disabilities/ASDandProjectREACH.html).

**Personal Counseling Inputs.** Personal counseling provides individual and group 
counseling, theme-centered workshops, video showings and discussions groups, drug and
alcohol counseling, couples marriage, premarital and family counseling, bereavement, and housing referrals. Students can attend workshops on test anxiety, stress management, study skills, time management and procrastination, and communication. Personal Counseling also provides a link to ULifeline, a self-evaluator that screens for thirteen of the most common mental health conditions faced by college students. While the tool does not diagnose these conditions, it provides students with a resource to identify symptoms they may be exhibiting and options for getting assistance. In addition to these services, Personal Counseling provides consultation and referrals for mental health services not offered by the department.

**Processes.** While Personal Counseling provides therapeutic services to all Brooklyn College students, staff members are specifically trained to work with the “uniqueness” of the autism spectrum population. Counselors, doctoral level students, interns, and externs are trained to therapeutically serve students on the spectrum and developed group therapy specifically for students with ASD. Students on the spectrum are placed in groups to address their needs, whether it’s to help deal with anxiety and stress, time management, or organization skills. The services provided are tailored to the individual students’ needs.

When counselors in the Office of Personal Counseling encounter students on the autism spectrum, they refer them to CASP so that they can benefit from all of the supports provided by the program. The Office of Personal Counseling is also in a unique position where it not only refers students to CASP, but also diagnoses students on the spectrum for the first time. According to the director of Personal Counseling, for students who are coming to the office for services and are already diagnosed with autism, it is much easier to refer them to CASP, since they are aware of their condition and understand their abilities and how they can benefit from the program. The process is more sensitive and complicated for students who are being diagnosed
for the first time because they need to process and understand what it means to be on the autism spectrum. Students who are being diagnosed for the first time in college either respond by stating “finally someone’s telling me something that makes sense” and “I felt so different for so long,” or they worry about being labeled or judged. So, while the counselor would like to refer a student who was recently diagnosed to CASP for support, they have to focus on helping students with the psychological process of receiving a new diagnosis of autism spectrum disorder.

According to the data, college students on the autism spectrum are high-functioning and have learned to overcome challenges related to autism such disorganization, difficulties socializing, or social awkwardness; however, how they choose to deal with these struggles often leads to other effects. The director of Personal Counseling theorizes that,

the side effects of autism may be the loneliness that has come out of it, or the anxiety that has come out of it; that is what's difficult. Sometimes the low self-esteem or the depressed, defeated attitude is a side effect of the autism, but [it is] not the autism. That is what usually becomes challenging. (Personal communication, December 1, 2015)

**Output.** In these cases, the personal counseling department can provide therapeutic services to students who may be dealing with anxiety or depression. If additional mental health counseling is required, Personal Counseling can make referrals. The goal is to ensure that the student receives required mental health counseling to enrich their social experiences and address barriers to academic success.

**Improvement.** The improvements recommended by the director of the Office of Personal Counseling were to transition the program from a multi-disciplinary team to a program that is fully integrated into the college. This would begin by moving from a grant-funded program to
having the college independently fund the program. With this additional funding, the program would be able to permanently hire staff members specifically designated to the program. The other suggested improvement would be to increase awareness of the program not just on campus, but also within the surrounding community to improve recruitment, and to have a web presence.

**Magner Career Center Inputs.** The Magner Career Center at Brooklyn College prepares students with the skills, knowledge and opportunities necessary to attain their career goals. The Center partners with employers, alumni, faculty, staff, and students to prepare them to compete in the work force. Some of the services provided by the Magner Career Center are career planning, guidance selecting a major, search for internships and stipend awards, connections with alumni mentors, professional skills training, career workshops, career assessment, résumé review, interview preparation, and pre-law advising.

**Processes - CUNY LEADS.** CUNY recently developed a program named CUNY LEADS that focuses on helping students with disabilities attain academic and career goals. Last year, Brooklyn College hired a LEADS counselor who works within the Center for Student Disability Services and collaborates with the Magner Center to provide career services specifically to students with disabilities. The LEADS counselor’s job is to help students with disabilities find employment, internship opportunities, or volunteer work. Students can receive help building their résumés, learn how to navigate a job fair, learn how to make contact with employers, and attend panels in the respective fields. The LEADS counselor has worked with seven of the students participating in CASP. The LEADS counselor is in a unique position, because she works within the Center for Student Disability Services and the Magner Center. According to the LEADS counselor, she often finds herself in the position where she has to refer or encourage CASP participants to take advantage of the services and supports available to them.
**Outputs:** The LEADS counselor believes that one of the benefits of CASP is having access to all the support services and then making program participants aware of all the available services. The counselor also believes that participation in CASP improves student self-advocacy skills because as their awareness of the services and supports increases, they are repeatedly exposed and encouraged to articulate their needs and request appropriate supports.

According to the LEADS counselor, many of the CASP participants she works with are coming to her with little to no work experience. She works with them to build their résumés, expand their work experience, and expose them to the job market. The counselor has referred two CASP participants to a program called ASTEP where they have an opportunity to visit different companies, build résumé skills, network, and work on their social skills. Some of the challenges she has observed when placing CASP participants in a job or internship are the lack of overall job experience and the need of support based on where the participant may be on the spectrum. For example, “a student who needs to work on executive functioning might need more support services in terms of time management skills, coordination, and getting to places on time … working with them in a structured way so that they are able to understand what is expected of them and what I need to do in order for them to hold a job is part of the conversation” (LEADS Counselor, personal communication, October 28, 2015). The outcome of this intervention is the beginning of career explorations and/or exposure to career options.

**Improvement.** When asked how CASP can be improved, the LEADS counselor suggests that the program be expanded to other departments on campus, specifically the academic departments and the learning center. The counselor suggests that the learning center provide more targeted tutoring specifically for students on the autism spectrum. The program should also increase awareness within all the academic departments.
Speech Language Hearing Center Inputs. The Diana Rogovin Davidow Speech Language Hearing Center provides diagnostic and rehabilitative services to adults with speech, language, voice, and hearing impairments. The center is located at Brooklyn College and serves as an educational site to the college’s graduate students. The Speech Language Hearing Center’s website states that the clinic “sponsors research and community service programs such as the Center for Auditory Research, the Oliver Bloodstein chapter of the National Stuttering Association, a specialty lab in the study of voice, communication groups for students with aphasia, parent training for families of children on the autism spectrum, and social skills training for children with varying communication problems” (http://www.brooklyn.cuny.edu/web/academics/centers/slhc.php).

According to a professor and CASP collaborator working with the Speech Language Hearing Center interviewed for this study, the central role of the Speech and Hearing Clinic is to refer potential participants to CASP and increase student awareness of the program. Since the Speech and Language Clinic is part of the Speech Communication Arts and Sciences department, they also train undergraduate and graduate students about autism. Autism training is part of the undergraduate curriculum, and the department developed a 15-credit autism spectrum certificate program for graduate students. As a result, of this training, many of the department’s graduate students work as mentors in CASP.

Processes. In addition to these roles, the clinic is prepared to provide social or communication groups to help develop the one-to-one or group social skills of students in CASP. According to the speech collaborator, “support really would be here for an interested student for any communication or social skills opportunities because it would be in the speech language pathologist’s scope of skills.” While the Speech and Hearing Clinic has offered to provide
communication and social groups, very few CASP participants or students on the Autism Spectrum have taken advantage of this service. When asked why this is the case, the Speech Collaborator responded by saying

I wonder if when they (CASP participants/students with ASD) get to college the world opens and they want to do it themselves. They want an opportunity to be a little more independent and reaching out for services may not feel as independent to them. I don’t know; I’m just wondering (Personal communication, November 12, 2015).

**Improvements.** When asked how CASP can be improved, the speech collaborator stated that the program could benefit from additional student, faculty, and staff member awareness of autism spectrum disorders on campus. While the program has presented several workshops to increase awareness and developed informational flyers, there is still a need to do a larger marketing campaign to not only improve awareness of CASP, but also the experiences of students with ASD on campus and what can be done to support them. The campus needs to ensure that students with ASD know that CASP exists so they can take advantage of all of the services and supports available to them.

**Health Clinic Inputs.** The Brooklyn College Health Clinic provides primary health care services free of charge to Brooklyn College students. The health clinic provides “evaluation and treatment for acute and chronic medical conditions as well as guidance on practices that promote good health and disease prevention” (http://www.brooklyn.cuny.edu/web/about/offices/studentaffairs/offices/healthclinic.php). Some of the basic services provided by the health clinic are diagnostic testing, including STD and HIV screening, TB tests, glucose screening, and other laboratory tests. The clinic also provides
prescription and non-prescription medications, and free immunizations. The health clinic addresses the medical needs of all students to ensure that students can meet their full potential for academic and social success at the college.

**Improvement.** The health clinic representative interviewed for this study stated that CASP can be improved by developing a website to increase awareness of the program. The Health Clinic representative also suggested that the program take steps to improve the recruitment of participants. She believes that recruitment will improve if there is increased awareness of the existence of the program on campus. Lastly, there is a need to improve the use of services available through the program. Currently, CASP participants may use one or two of the services available through the program, but there are several services not being utilized to the full potential by participants.

**Learning Center Inputs.** Brooklyn College’s Learning Center provides free peer tutoring services in a comfortable environment with computers and required reference materials (http://lc.brooklyn.cuny.edu). The Learning Center offers tutoring in writing, ESL, core (general) courses, science courses, CIS, foreign languages, and mathematics. The center provides individual and group tutoring. Computers are available to all students, including students with special needs that may need Braille printers or applications such as ZoomTEXT and JAWS, both screen reader and magnifier programs.

While the Learning Center is identified by CASP as one of the collaborators of the program, their role is significantly different from the other five departments. While the other departments periodically meet to discuss the progress of the program and the needs of their students, the Learning Center does not have a representative attending these meetings. The
Learning Center only provides peer-tutoring services to CASP participants and does not contribute to discussions or the development of the program.

**Improvement.** While a representative from the Learning Center was not interviewed for this study, the LEADS Counselor interviewed from the Magner Center suggested that CASP participants could benefit from having tutors at the Learning Center trained to work with individuals on the autism spectrum. The peer tutors at the Learning Center are not aware of the needs of CASP participants or how they can provide services to this unique population.

**Mentor Program.** One of the most utilized components of CASP is the mentor program. The mentor program was designed to support CASP participants in academic and social areas through the use of graduate students that serve as mentors. Interested program participants are assigned a graduate student mentor from the Education, Mental Health Counseling, Speech Language Hearing, or Psychology department. The purpose of the mentoring program is to provide program participants with an opportunity to socialize with a Brooklyn College student peer and discuss relevant events or issues. One of the goals of the mentor program is to increase the awareness and utilization of needed supports and services for students with ASD. An additional goal is to assist with the development of self-advocacy skills for the mentees. While these are the stated goals, each mentor/mentee relationship is uniquely based on the needs of the mentee. Each semester pre- and posttests are administered to assess the mentee’s understanding of the following areas:

1. Personal strengths and challenges
2. Ability to self-advocate
3. Social skills
4. Academic skills
5. Ability to independently complete day-to-day activities (e.g. cooking, cleaning)
6. Setting goals and making positive change
7. Having positive self-esteem and engaging in relationships in a healthy way
8. Ability to handle emotions and cope with problems in a healthy manner

Once the mentor supervisor can assess the strengths, interests, and needs of the mentee, the information is then shared with the individual mentor. According to the self-assessment completed by mentees, “the areas mentees need the most assistance with are study skills, organizational planning, and time management” (personal communication, Mentor Program supervisor, October 19, 2015). Even with this information, during the first meeting with the mentee, the mentor would have a discussion to identify what the mentee wants to work on or needs assistance with. Mentors in the program are not starting the relationship with an agenda or list of things to work on, but engaging with mentees to understand what it is they would like to accomplish in the sessions (personal communication, Mentor Program supervisor, October 19, 2015). For example,

we might identify a group of students who are doing really well academically, but struggling socially and emotionally. In this situation, we might say, “You know what, this person, they don't have any positive interactions. They seem a little depressed and lonely. Let's make our mentor meeting about giving them a positive social experience” (personal communication, Mentor Program supervisor, October 19, 2015).

For another student, the relationship may not be about working on social interactions, but they may need help with executive functioning. “We had someone who is very bright, but they were really disorganized. They were trying to sign up for way too many things and they were overwhelming themselves. They were prioritizing going to a club meeting over the fact that they
had an exam the next day. So we helped them get organized” (personal communication, Mentor Program supervisor, October 19, 2015).

**Social and emotional Support.** The CASP mentoring program “provides students with a corrective social experience” and “positive peer feedback” (personal communication, Mentor Program supervisor, October 19, 2015). The mentors discuss a particular social challenge that mentees are having at particular times. When mentors are socializing with mentees, they are providing them with positive peer feedback. According to the mentor supervisor, “I always tell the mentors ‘You're having a proactive experience.’ One good positive experience might make your mentee less likely to avoid social interaction. It may seem really simple, but it's so important” (Personal communication, October 19, 2015).

A mentor can coach their mentee through those social interactions by modeling and role-playing. If a mentee is having difficulty approaching an individual or department, the mentor can make suggestions on how to start a conversation. Additionally, the mentor and mentee can practice certain social interactions by discussing the pragmatics of how to engage someone socially. Mentors can suggest to mentees that “maybe you could say this, or maybe you can say that.” In addition to a way of modeling methods of how to socially interact with others, the mentor/mentee relationship is in and of itself a social interaction. When a mentor and a mentee are hanging out, they might see one of their friends and say, “Hello, this is Jim.” That introduction could possibly lead to another relationship on campus.

One of the mentors shared that she viewed the social component of the mentor program as an integral factor. The mentor believed that her mentee appreciated her, “not just seeing him as a client, but as someone I am spending time with. We both know that we were part of CASP;
he is a mentee and I know that I am a mentor, but just being open to providing support. It really just challenged my counseling skills as far as not being overly therapeutic, but being more supportive” (Personal communication, Mentor 2, December 2, 2015).

**Self-advocacy.** The inability for college students with autism to self-advocate can be an obstacle to receiving the services or supports needed to meet academic goals. Another way the mentors have helped students is to coach them in asking for help. The mentors stated that they observed occasions in which mentees were unable to articulate what they needed to a professor or a support service office. According to the mentor supervisor, “It could be emotional and that could be blocking them from self-advocating, or they just don't know how to word a request. It could be something around communication and that's what they need help with. Or it could be that they're just unaware that they have an accommodation. There are all these different blocks that can be inhibiting them from being good self-advocates” (Personal communication, October 19, 2015). The mentors receive support from the mentor supervisor, to recognize barriers to self-advocacy and identify methods to encourage mentees to communicate their needs to receive the supports and services they need.

The mentor program views self-advocacy as both a short and long term goal of the program, because if mentees can learn to advocate to receive services and accommodations in the college setting, then they have learned a lifelong skill that can translate outside of school. According to the Mentor Program supervisor, self-advocacy has got to be one of the core functions of the program to ensure that the mentees are receiving and utilizing the services and supports available to them. If the program simply reiterated the accommodation and wrote letters to professors to ensure that they received the accommodation, an opportunity to develop self-advocacy skills would be missed. Most of the students in this program have some degree of
educational accommodation. In high school, students had an individualized education plan (IEP), which is a legal document mandating that the school has to provide an accommodation. For example, if it’s written in an IEP to give the student class notes, it’s the teacher’s responsibility to give them those notes. In college, it’s very different, and it’s the student’s responsibility to reach out and get copies of those notes. Unlike high school, college more closely reflects how things are done in the real world, where students have to actively seek out and request services as opposed to accommodations being automatically provided. By focusing on the self-advocacy piece, the mentor program is bridging the gap that exists between a student’s expectations that accommodations will be provided and self-advocacy for services and supports with the coaching of a mentor.

Through every interaction, mentors are purposefully and unconsciously modeling how mentees can discover and request services and supports. When a mentee has a problem finding help, mentors can walk them through the process. Mentors coach mentees to consider, “Who can I ask? Where do I need to go? What are the steps?” Mentors show their mentees how to problem-solve, how to identify where resources are, and how to organize their thoughts. According to the Mentor Program supervisor, a common challenge of the mentees is being able to identify the resources available to attain their goals. For example, one mentee knew she wanted to graduate and get an internship, but had no idea how to go about achieving that. The goal of the mentor program is to help mentees achieve their goals by self-advocating and utilizing the resources available to them.

**Referrals.** Whether it is through self-advocacy or encouragement, a large part of the mentor program’s objective is to refer students to support services. Mentors are assisting mentees with making the connection between their needs and available resources. How the mentor links
mentees to support services depends on the needs of each student. In addition to modeling, in the case of self-advocacy, sometimes when an issue or need presents itself, mentors will confer with the Mentor Program supervisor and get advice on how to refer a student to services. Sometimes the individual’s need goes beyond the scope of the mentor’s responsibility and a direct referral may be required. In other cases, a student may need emotional support while accessing services. For example, one of the mentors shared the story of a mentee that was struggling with anxiety. When she discussed the case with the mentor supervisor, she was encouraged to refer the student to personal counseling. The mentee did not feel comfortable going to the Personal Counseling department by herself, so she asked the mentor to go with her. The mentor escorted her to the department and waited for her session to end. Another mentor shared a story of her mentee being hospitalized the last week of school during finals. There was no one available to go with the mentee to the hospital, so the mentor ended up going to the hospital with her. According to the mentor

> They wouldn't admit her so I had to help her calm down, and I think she really appreciated that I went with her. It was kind of scary for her to go in the ambulance, but we were able to meet with her mom and talk with her mom and talk with her about what kinds of things were going on and how things could be better. She occasionally calls me, so I think just having that support available is something they both appreciated. (Personal communication, October 1, 2015)

**Training.** All graduate student mentors participating in the program are required to attend formal and informal training. Most graduate students use this mentoring program as an opportunity to gain experience with individuals on the autism spectrum. The experience in the
mentor program helps with their own professional development and they take the knowledge gained from the program back to their classrooms to share with their peers.

A licensed psychologist supervises the mentors, and provides them with information about ASD, communication strategies, mentoring guidelines, and training opportunities. The mentor supervisor meets with the mentors on a weekly basis and communicates informally when needed to discuss the progress of the mentees. Mentors participate in a comprehensive mentor-training program developed by the Project REACH team at the College of Staten Island (http://www.autism-collegeeducation.com/rasdtraining5/). CASP members also attend a conference organized by the Asperger Syndrome and High Functioning Autism Association (AHANY), an organization serving individuals on the autism spectrum, their families, and the professionals working with them. As stated earlier, the event also serves as an opportunity for mentors and mentees to socialize and for CASP participants to receive additional support.

**Challenges and improvements.** Several obstacles were mentioned in regards to the mentor program. First, there are more mentees than mentors, often leading the program to assign two mentees to one mentor. Given the fact that mentors are also students with their own course loads and sometimes other jobs, it becomes difficult for the mentors to schedule time to be with more than one mentee. Additionally, funding for the mentor program often comes in during the middle of the semester. This presents a challenge to recruitment because most graduate students have already made other commitments by the time funds are available. The lack of guaranteed funding and the other responsibilities of mentors makes it difficult to retain mentors for additional semesters and adversely affects the mentor-mentee relationship. One of the mentors shared that
it is hard to go through the entire semester saying, “Hey I am here; you can email me whenever you have questions,” and then having to end that relationship. Ever since the end of the program, we have emailed a few times, but not a lot. We discussed maybe catching up again in person, but it never worked out. So that’s a challenge, being a mentor and developing this relationship and then life happens. And then, you know it just wasn’t able to continue (Mentor, personal communication, October 1, 2015).

**Faculty and Staff Training and Awareness.** Efforts to advertise the Collaborative Autism Support Program happen at the university level through the REACH program and locally through the related service departments. On the university level, REACH holds faculty workshops throughout the year to educate faculty about students with ASD and the challenges they may face in the classroom. Part of these presentations and workshops include introducing some classroom modifications and syllabi changes that can benefit all students, but specifically those with disabilities (REACH Coordinator, personal communication, December 30, 2015). Individual campuses also provide varying levels of training/workshops and professional development to their faculty. In addition to these training workshops, the REACH director coordinated the activities listed in the following table to increase campus awareness of autism spectrum disorder.
### Activities coordinated by REACH project to increase campus awareness

<table>
<thead>
<tr>
<th>Activities to increase campus awareness</th>
</tr>
</thead>
</table>
| **Website:** Created and maintained a website that served as a resource about REACH and its activities. Posted informational items there, including a newsletter, photos of events, and media articles about REACH, reports of the mini-grant projects, ASD resources, and description of REACH students who achieved awards. [www.cuny.edu/projectREACH](http://www.cuny.edu/projectREACH)  
| **Newsletter:** Wrote and distributed a quarterly newsletter with program information about REACH’s recent and upcoming activities. The newsletter is distributed via email throughout the university as well as in an email list to anyone interested in the project. [http://www.cuny.edu/about/administration/offices/sa/services/disabilities/ASDandProjectREACH/REACHNewsletter6WINTER_SPRING2014.pdf](http://www.cuny.edu/about/administration/offices/sa/services/disabilities/ASDandProjectREACH/REACHNewsletter6WINTER_SPRING2014.pdf)  
| **Mailing List:** Compiled and maintained an e-mailing list of over 250 individuals, both internal and external to the University, who were either involved with or interested in REACH.  
| **Presentations:** Presented both at individual CUNY campuses, as well as external to CUNY (high-profile examples: United Nations, Autism Speaks)  
| **Media:** Conducted one interview upon request for *The Village Voice*, which resulted in our Project being included in their article on students with autism in college. See: [http://www.villagevoice.com/news/with-autism-diagnoses-on-the-rise-new-york-universities-offer-students-help-6441510](http://www.villagevoice.com/news/with-autism-diagnoses-on-the-rise-new-york-universities-offer-students-help-6441510)  
| **Specialized Media:** Co-wrote an article for *Autism Spectrum News*, promoting REACH as an affordable, high quality option for college students on the spectrum. [http://www.cuny.edu/about/administration/offices/sa/services/disabilities/ASDandProjectREACH/AutismSpectrumNewsArticleFall2013.pdf](http://www.cuny.edu/about/administration/offices/sa/services/disabilities/ASDandProjectREACH/AutismSpectrumNewsArticleFall2013.pdf)  
| **CUNY Media:** Submitted articles to CUNY-wide publications to increase visibility throughout CUNY and share information about REACH  
| **Meetings:** REACH held a Strategic Advisory Board Meeting each year, which brought together all stakeholders to discuss the progress and plans of REACH  
| **Events:** REACH held a Disability Awareness Month capstone event each year, during which time we provided guest speakers who were experts in this field. The campus sites also held events to spread information and knowledge for REACH’s purpose and activities. |
On the campus level, CASP has conducted a number of workshops to reach out to small and large groups to inform the campus of their presence. Every year Brooklyn College hosts a Faculty Day Conference where faculty members can network and improve the academic and social life of students on campus. At this event, departments and faculty members can present information through posters, small lectures, and roundtable luncheons to increase awareness of academic opportunities and supports. Every year CASP has been funded, they have participated in faculty day either through a poster or roundtable discussions.

CASP has also made itself available to answer questions and concerns about how to communicate with students differently, identifying and handling challenging behavior, and where to find resources on how to help students with autism spectrum disorder (program coordinator, personal counseling director, speech representative, health clinic director, personal communications, October – December 2015). Generally, faculty members have questions such as, “Students on the spectrum, they have so many questions and they are in my space. How do I handle this?” “I think this student is on the spectrum – what am I allowed to ask? What shouldn’t I ask? How should I interact with them?” The Center for Student Disability Services provides strategies to faculty members working with students on the autism spectrum.

CASP has hosted functions with speakers like Stephen Shore, an advocate and autistic professor of special education from Adelphi University, and Mitch Nagler, a licensed mental health counselor and director of the Bridges to Adelphi program serving students on the autism spectrum. CASP has also started reaching out to individual departments on campus to introduce themselves and increase awareness of the program and the services that it provides.
Challenges. On both the university and campus levels, there have been challenges to increasing awareness of the program. For the most part, autism-related faculty presentations are not well attended, unless faculty members were the ones who initiated the request for the training. According to the REACH Coordinator, “there [i]s no incentive for faculty to learn about autism. Often times the faculty who attended these trainings were the ones who already knew about autism, or had a relative on the spectrum, or had a problematic student already in their class” (Personal communication, December 30, 2016). The representative from the speech department stated “I find that if it does not impact the faculty at this minute, it’s not something in their forefront. It’s just if they don’t have a need, then we don’t fill a need for them” (Personal communication, November 12, 2015). And the Personal Counseling director stated, “The truth is you can have a great meeting, but people’s time is limited. You have 20 things to do, and I think everyone students/faculty has to pick and choose and if it is not impacting their life immediately, they don’t attend” (Personal communication, November 9, 2015).

Section Two

Experiences of CASP Participants. Four students initially volunteered to participate in this program evaluation. Three of the participants were currently enrolled as undergraduate students and one had recently graduated. There were two male and two female participants. Two of the participants were able to complete in-person interviews, another completed an interview via email, and the other student refused to participate in the interview. The participant that completed the interview through email was more comfortable answering questions in writing and did not want to meet with me in person. The student participant that refused the interview actually met me at our scheduled interview time and location with one of the program coordinators present (as requested). As we started the interview process, he disclosed that he was
“tired of talking about my autism.” His body language suggested that this wasn’t the first time that he was asked to speak about his autism and that he didn’t want to speak about it anymore. But in that same interaction, it became evident that he had only accepted the interview as an opportunity to meet with the LEADS advisor who promised she would be there for support if he participated in the study. Their bond was a visual testament to the support provided to the student. Given the limited responses in the email interview and the interview refusal, the findings will focus on the results from the two in-person student interviews.

**Case 1: Aaron.** Aaron (pseudonym) is a White, medium-built male student, wearing glasses, who is completing his senior year at Brooklyn College. Aaron is a self-proclaimed introvert, describing himself as being extremely shy and not outgoing. When he was younger, he thought that he was “just abnormally shy,” until he found out that he had Asperger’s syndrome. Aaron describes one-on-one conversations as challenging. It has been hard for him to develop relationships out of a fear of rejection. Additionally, Aaron admits that his personality was gloomy and he was “mopey,” which made it tough to develop relationships. According to Aaron, he sometimes has a hard time “connecting with people when I really want to connect” (Personal communication, October 10, 2015). Aaron found the college experience to be lonesome. “It's kind of difficult. It's very different from say, high school” (Personal communication, October 10, 2015).

Aaron’s ability to interact with others became even more challenging when he came to Brooklyn College. He was accepted into the college through the SEEK program, a mandated higher education program that provides special academic, financial, and counseling assistance to students entering college for the first time. SEEK students start their first semester in a freshmen year program which serves as a learning community where students take all of their courses
together. After that semester, students pursue their own interests and are not required to take courses together. Aaron appreciated the initial format because it allowed him to make friends. However, as soon as the group separated, he found it difficult to make connections with others. Additionally, Aaron had difficulties forming relationships with some of his professors. According to Aaron, “some professors were really good and they really kept in contact, and it was really beneficial for me. Others pretty much fall off the map. One way or another, it hasn't really clicked” (Personal communication, October 10, 2015).

Aaron learned about the Collaborative Autism Support Program (CASP) through the director of the Center for Student Disability Services. The director spoke to Aaron about the supports and services available through the program and how he could possibly benefit from participating. Through CASP, Aaron has been referred to the Learning Center for tutoring, the Magner Career Center, and the LEADS counselor for career services, and he participated in the mentor program. When asked about his experiences in the CASP program, Aaron responded by stating that, “They offered me moral support, which is in a way, one of the best things for me that I can have, moral support. They've helped me in so many other ways, like actually listening to me, helping me with my writing as my last mentor who worked at the tutoring center has. One even helped me update my résumé” (Personal communication, October 10, 2015).

**Academic and career development.** Aaron found the LEADS career counselor to be extremely helpful. The LEADS counselor has broadened Aaron’s thinking about career options and the work environment. Aaron would like to become an archivist, and the LEADS counselor has helped him learn about the field and possible opportunities. According to Aaron, the LEADS counselor has “help[ed] me a lot with alerting me of internships and programs that can help me broaden my job career. She actually introduced me to a group called ASTEP” (Personal
communication, October 10, 2015). The group goes to various companies and learns about the business, meets the people who work there, and networks. Since Aaron wants to become an archivist, he was advised to take it slow, but to start to work in a library or some other environment that organizes things. Aaron states that, “schoolwork is the most important thing for me right now. I'm definitely getting the motive to pursue my career, and after my classes, I'll do it” (Personal communication, October 10, 2015).

While Aaron says that he has good grades, he often struggles to complete his papers. He has found it difficult to sit down and write. Aaron has used a tutor from the Learning Center for academic support as he works to improve his writing skills.

**Social/emotional support.** Aaron has participated in the mentor program since its inception and has had two mentors so far. He credits the mentor program with helping him “get out of his shell” and interacting with others more. Aaron’s mentors helped him develop social skills to form relationships with others. Some of the skills they worked on together were eye contact, being friendly, meeting new people, and just saying “hello” to someone. He was encouraged not to run home and watch YouTube as he often did (he admits that he still goes home to watch YouTube, but now he knows that he has other options).

Aaron believes that the emotional support provided through the mentor program is its most beneficial component. The mentors never forced him to do something he didn’t want to do, but they provided emotional support. While the mentors are not personal counselors, they are supportive and listen to him. Aaron describes this aspect of the mentor program as being somewhat like a little bit of personal counseling, even though they're not counselors. They're willing to listen to me, to hear my fears, a couple of times my insecurities or my
interests, even some quite, what can be considered, private stuff about learning things - couple of them didn't really mind. They were very accepting of that. (Personal communication, October 10, 2015).

Through the Center for Student Disabilities Services, Aaron was connected with a group called S.O.F.E.D.U.P. (Student Organization for Every Disability United for Progress), a student advocacy group for disabled members of the Brooklyn College community. “When I was introduced to this club, it was very helpful for me to get out there. I was able to talk more; I was able to gain support from them” (Personal communication, October 10, 2015).

**Improvement.** When asked how the program could be improved, Aaron suggested that mentors not be assigned to more than one mentee at a time. Aaron enjoyed working with his mentors who he thought were friendly, supportive, and helpful. However, one of his mentors was assigned two mentees and he thought that it was difficult for them to schedule one-on-one time because of the additional responsibility assigned to the mentor. Aaron would prefer that there were enough mentors to exclusively assign mentors to mentees. He also suggested that the program take additional steps to increase awareness of the needs of students with ASD.

**Case 2: Chloe.** Chloe (pseudonym) is an African American female majoring in Children’s Studies and completing her senior year at Brooklyn College. Chloe transferred to Brooklyn College from the State University of New York (SUNY). When she transferred to Brooklyn College, she changed her major from Speech Pathology to Children’s Studies, because she is interested in working with children. Chloe struggled her first semester because she registered for a full-time credit load and the courses were more challenging than she expected. That semester she had a low GPA and decided to go part-time in order to create a balance where she could study more efficiently and still take classes. Chloe sought the assistance of the Center
for Student Disability Services when she was struggling with her classes. The Center advised her to reduce her course load to better manage her classes. While Chloe was reluctant to become a part-time student, she understood why she was advised to change her status.

In addition to seeking the assistance of the Center for Student Disability Services, Chloe has also visited the Learning Center, Health Clinic, and Magner Career Center through the CASP program. Chloe has also had two mentors through the mentor program. When asked about her experience in the mentor program she stated that she likes the support and connections that she was able to make through the program.

**Academic support.** In addition to the advisement Chloe has received from the Center for Student Disability Services, she also went to the Learning Center for tutoring in a couple of her courses. Additionally, Chloe received academic support from her mentors. One semester Chloe had to give a presentation for one of her classes, but she does not like public speaking. She shared this challenge with her mentor and they were able to provide her with some support to prepare her for the presentation. Chloe’s mentor offered her some strategies on how she can present to a large group and she practiced with her to help her be more comfortable. Chloe was able to successfully complete her presentation. The peer-mentoring program also helped Chloe manage her course load by getting her organized. Both mentors helped her create two types of study schedules, and her last mentor helped her organize her assignments, study schedule, and upcoming social events.

**Social/emotional support.** A couple of years ago, Chloe struggled with depression and anxiety and was referred to the Personal Counseling department. Chloe has an assigned
counselor at personal counseling that she visits whenever she feels depressed or has an anxiety attack. Chloe also credits the mentor program with helping her get through an anxiety attack.

My first mentor, I told her I was going through an attack. She helped me at the end of the last spring semester. Last year didn't do so well on an assignment for one of my Children's Studies courses. I spoke to her afterwards about what happened. She told me to go to the counseling center to try to calm down, because there was an exam I had to take in two days, at that time. So she helped me, and we bonded through empathy (Personal communication, November 10, 2015).

Chloe admits that she does not have difficulties meeting other people but she understands how the mentor program can help students with ASD improve their social skills.

My last mentor, she had another mentee besides me, and the mentee was more introverted than I was. We met only one time where the mentor wanted to help the other mentee get engaged on campus. It's just that some students with disabilities have trouble with communication, specifically those on the autism spectrum, and so all they have to do in college was just go to school, do their schoolwork and come home without communicating (Personal communication, November 10, 2015).

**Improvement.** Chloe would like CASP to increase the awareness of the program and the experiences of students with ASD on campus. She believes that there isn’t enough exposure for the program or a general understanding of the needs of students on the autism spectrum.

**Overview of Program Improvement Findings**

As a formative program evaluation, one of the guiding questions focused on how CASP could be improved. All study participants were asked how they believed the program could be improved. The data included improvement suggestions from an administrative and participant
perspective. Improvement recommendations focused on funding, increasing awareness of the experiences of students with ASD and CASP, and the structure of the mentor program. Below is a table with suggested improvements, provided by study participants.

Table 4.2

CASP Improvements

<table>
<thead>
<tr>
<th>Suggested CASP Improvements</th>
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<tbody>
<tr>
<td>Funding: Consistent funding through the College instead of an external source.</td>
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<tr>
<td>• Increase funding to increase hiring of mentors to allow for a one-to-one relationship and</td>
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<td>continuity beyond one semester.</td>
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<td>Fulltime coordinator to manage the program</td>
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<td>Program should be fully integrated into the campus</td>
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<td>• Services and supports should be expanded to include other departments</td>
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<tr>
<td>Further increase awareness of experiences of students with ASD</td>
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<tr>
<td>Further increase awareness of CASP on campus and the surrounding community</td>
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<tr>
<td>Improving recruitment for program</td>
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<tr>
<td>Increase CASP participant usage of supports and services</td>
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<tr>
<td>Learning center should tailor services specifically for students with ASD</td>
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<tr>
<td>Create a website presence</td>
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</table>

Summary

The Collaborative Autism Support Program was created to improve the academic and social outcomes of students on the autism spectrum attending Brooklyn College. The purpose of the program was to collaboratively provide services to enrich the experiences and success of students with ASD. The services provided through the Center for Students with Disability
Services, Personal Counseling, the Learning Center, Magner Career Center, Speech Clinic, and the Health Clinic uniquely foster student success for a population that requires more than standard accommodations. In addition to coordinating nontraditional accommodations, the program utilizes graduate student mentors to provide additional support to its participants. The needs of program participants varied from one individual to another. While some students required academic support, others needed help developing social skills, emotional support, and assistance with executive functions. Lastly, the program aims to increase campus awareness of the experience of students on the autism spectrum. While increasing the awareness has been challenging, program stakeholders understand the importance of working toward this goal.
Chapter 5: Discussion of Findings

Overview

Previous research suggests that college students on the autism spectrum require holistic and individualized programming to enrich their college experience and to successfully attain their degree (Hart, Grigal, & Weir, 2010; Ackles, Fields, & Skinner, 2013; MacLeod & Green, 2009). This research was designed to evaluate a newly formed interdisciplinary collaborative service program for college students with autism attending a four-year public college. This formative program evaluation collected information about the activities and characteristics of the Collaborative Autism Support Program to assess if the program is meeting its goals mid-cycle and make recommendations for improvements to aid with developing the program. The overarching questions guiding this research are: How does the interdisciplinary Collaborative Autism Support Program (CASP) at Brooklyn College serve college students with autism spectrum disorder? How does the Collaborative Autism Support Program align with Association of Higher Education and Disability’s Program (AHEAD) standards? How can CASP be improved?

A formative program evaluation was utilized to examine the identified elements of CASP in association to the intended outcomes (Weiss, 1998). Since CASP is a relatively new program, the focus of this investigation is on development as opposed to effectiveness. This program evaluation utilized AHEAD’s program standards as a research-based guideline for the investigation. This study was based on data collected from 13 participants including students/program participants, staff, and faculty members to provide a complete representation of CASP to further understand the design, implementation, and evaluation of the program and the
experiences of college students on the autism spectrum. Below is a table defining the roles of the 13 participants in this study.

**Table 5.1.**

**Study participants and CASP Affiliation**

<table>
<thead>
<tr>
<th>Participants</th>
<th>CASP Affiliation</th>
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</thead>
<tbody>
<tr>
<td>Director, Center for Students with Disability Services</td>
<td>CASP Principal Investigator, Co-contributor, Center for Students with Disability Services Representative</td>
</tr>
<tr>
<td>Director, Health Clinic</td>
<td>CASP Contributor, Health Clinic Representative</td>
</tr>
<tr>
<td>Director, Personal Counseling Services</td>
<td>CASP Contributor, Personal Counseling Representative</td>
</tr>
<tr>
<td>LEADS Counselor</td>
<td>CASP Contributor, Magner Career Center and LEADS Career Representative</td>
</tr>
<tr>
<td>Speech Language and Hearing Professor</td>
<td>CASP Contributor, Speech and Hearing Clinic Representative</td>
</tr>
<tr>
<td>Project REACH Coordinator</td>
<td>Coordinator of REACH Program (CUNY Central’s initial program for college students with ASD)</td>
</tr>
<tr>
<td>Mentor Program Supervisor</td>
<td>CASP Mentor Program</td>
</tr>
<tr>
<td>(2) Mentors</td>
<td>CASP Mentor Program</td>
</tr>
<tr>
<td>(4) Students</td>
<td>CASP Participants</td>
</tr>
</tbody>
</table>

The data collected from this study were examined through a program theory conceptualized by Lipsey (1993) to better understand why CASP designers implemented specific services/interventions and how they will attain desired results (Chen, 1990; Sidani & Sechrest, 1999). This chapter will discuss the findings of this study in relation to the program’s identified interventions and intended outcomes, AHEAD’s program standards, and suggested improvements. Then the chapter will conclude by discussing credibility and trustworthiness, implications of current and future research, and recommendations for practice.
Lipsey’s Program Theory

Lipsey’s (1993) program theory was designed to aid with the examination of the programs services and interventions in relation to the expected outcomes for program participants. This theory allows for an evaluation of the link between program inputs, processes, and outputs. Lipsey’s (1993) operational model provides a framework for examining the alignment of the problem, target population, interventions and services implemented, and the desired outcome. When examining CASP, this theory was used to understand how identified services and supports aligned with intended outcomes for students on the autism spectrum.

Problem and target population. The first two elements of Lipsey’s program theory are to understand the problem and target population. As described in the literature on students with autism in the college setting, the attendance of students with autism spectrum disorder (ASD) in postsecondary institutions has grown over the last decade, with 46 percent of students with disabilities attending colleges and universities being diagnosed with autism; however, only 38 percent of this population graduate from college (Wagner, Newman, Cameto, Garza, & Levine, 2005; Barnhill, 2014). High-functioning students with ASD have the potential to attain a college degree, but due to limitations in adaptive and social functioning, they need additional academic and social supports to achieve this goal. The challenges faced by college students with ASD include difficulties with transition planning, limitations with social skills effecting the ability to interact with peers and faculty members, dealing with feelings of loneliness and anxiety, self-advocacy and determination skills, and campus awareness.

This research study revealed that the different social, academic, and executive function impairments of CASP participants served as obstacles to their academic and social experiences. Some participants struggled with limited social skills, which adversely affected their ability to
interact with their peers and faculty members. Often times impaired social skills led to feelings of isolation, anxiety, and depression that impacted their social and academic experience in the college environment. Additionally, students with ASD had trouble self-advocating for supports and services required to meet their full academic potential. CASP staff members observed an inability for some program participants to utilize available resources and communicate their need for support to faculty and staff. This research study also revealed that participants had difficulties with executive functions such as time management, organization skills, and study habits that negatively impacted their academic performance. CASP participants disclosed that these impairments often led to difficulties delivering class presentations and handling full-time course loads.

**Inputs and outputs.** Identified supports for college students with ASD need to be individualized and multifaceted to address the wide range of needs. The literature on college students with ASD calls for programming that utilizes collaborative and diverse approaches to support the needs of this population (Hart, Grigal, & Weir, 2010). CASP’s overarching goal is to identify and provide support services to students on the autism spectrum. Therefore, CASP identified interventions and supports from six different student services areas: the Center for Student Disability Services, Personal Counseling Services, Speech-Language Hearing Center, Brooklyn College Health Clinic, Magner Center for Career Development and Internship, and the Learning Center. Services provided from these departments include, but are not limited to: non-traditional, creative accommodations through the establishment of a collaborative ongoing system of support which will include: tutoring, mentoring, social-skills training, individualized career counseling, individualized comprehensive outpatient medical services, mental health counseling and referral.
CASP program developers designed a person-centered approach to identifying supports and outcomes as opposed to pre-defined set of supports that are system driven. As recommended in the literature on programming for college students with ASD, the support services developed by CASP are highly customized to the individual (Hart et al., 2010; Longtin, 2014). This was evident in the data when CASP staff members discussed how a student was unable to get to class because they struggled with wandering, a symptom of ASD, but also a response of anxiety for this particular student. The Center for Student Disability Services was able to provide the student with an escort to ensure that they were able to attend courses. The short-term goal for this particular student was to consistently attend courses, while a long-term goal was to address feelings of anxiety through counseling.

There are a plethora of supports identified for CASP participants as the needs for each student varies and goals and outcomes are individually tailored. Each intervention or support service is designed to meet a specific intended goal or outcome for individual students. The intended outcome or goal might be social, academic, or career oriented. For example, this study revealed that CASP participants needed support with study skills, time management, and organization skills. The interventions identified to address these areas were accommodations and counseling through the Center for Students with Disability Services, workshops through the Personal Counseling Services, and strategies through the mentor program (discussed later in this chapter).

Another identified intervention and outcome from this study are students who require support developing self-advocacy skills. The intended short-term outcome was to increase student awareness of available support services and cultivate student’s ability to access supports. The long-term outcome is to develop self-advocacy skills so students can attain support beyond
the college setting. The interventions identified to address the development of self-advocacy
skills are counseling through the Center for Students with Disability Services and Personal
Counseling Services, and strategies such as informing and modeling through the mentor
program.

**Mentor program.** The literature on programming for college students with ASD
suggests that mentoring is a promising practice to providing personalized support (Hart, Grigal,
and Weir (2010). In addition to supports from the service areas mentioned above, CASP’s
graduate student mentor program was implemented to provide program participants with a peer
who attends Brooklyn College that can help them navigate the college environment. CASP
mentors are aware of the services and supports available to their mentees and model how they
can access them. The mentor program also provides an opportunity for CASP participants to
have social interactions with peers. This research revealed that the graduate student mentor
program is a valuable support for CASP participants and an educational opportunity for mentors.

As student participants shared their experiences in the mentor program, there was a
common theme of receiving emotional support from their mentors while they worked through
the transition to the college setting, worked on attaining their goals, and persisted to a college
degree. Both CASP participants stated that their mentor was someone that listened to them and
helped them through a difficult experience. While one spoke about having someone there for her
while she experienced an anxiety attack, prepared for a presentation, and worked on balancing
her course load, the other student spoke about having someone to help him “get out of his shell”
and to listen to interests, fears, and insecurities.
Graduate student mentors benefit from having experience working with students on the autism spectrum. Most of the graduate student mentors have never worked with someone on the spectrum nor do they have an understanding of their experiences at a college setting. The training that graduate student mentors receive and their experiences working directly with college students with ASD is invaluable. This educational experience is then shared with other students in their graduate courses, which aids in the program’s goal to increase campus awareness.

**Campus awareness.** Campus awareness was identified as an obstacle to positive experiences for college students with ASD (Nevill & White, 2011; Camarena & Sargiani, 2009; Longtin (2014). Increasing campus awareness of the experiences of college students on the spectrum is paramount to their success (Prince-Hughes, 2003). One of the identified inputs of CASP was in-service training for faculty, students, and administrators. CASP provides information about student experiences and the program through flyers, workshops, and roundtable discussions. Professionals from the Center for Student Disability Services are available to provide faculty members with strategies when working with college students with ASD.

This research study revealed that campus awareness of the experiences of college students with ASD remains a challenge for CASP staff members and participants. All CASP administrators stated that the college campus and the surrounding community still remains relatively unaware of CASP and the experiences of college students on the spectrum. Four CASP staff members revealed that even with planned activities and efforts to increase campus awareness, it has still been difficult to engage the community. All four CASP members indicated that this was not a result of lack of interest, but the fact that most people do not seek information or guidance on working with students with ASD until it becomes relevant to them. In other
words, unless faculty and staff members have a student in their classroom with autism or need to work with someone with autism at that current moment, they won’t opt to attend the workshop/roundtable discussion or seek the assistance of the CASP program.

**AHEAD’s Standards**

This research used AHEAD’s established research-based guideline for planning and developing disability service programs in higher education to direct the investigation (Shaw & Dukes, 2001). The goal of the Program Standards is to provide consistency for the development of supports for college students with disabilities across the country. AHEAD’s Program Standards comprise twenty-seven standards across nine categories: (1) Consultation/Collaboration/Awareness, (2) Information Dissemination, (3) Faculty/Staff/Awareness, (4) Academic Adjustments, (5) Instructional Interventions, (6) Counseling and Advocacy, (7) Policies and Procedures, (8) Program Development and Evaluation, and (9) Training and Professional Development.

**Consultation/Collaboration/Awareness.** AHEAD's standards require that programming for students with disabilities advocate for students to ensure equal access and provide representation on relevant campus committees. This study revealed that consultation and collaboration are core components of CASP. Since CASP is not a stand-alone department, several support service departments collaborate to coordinate services for CASP participants. As a result, these service departments meet on a regular basis and communicate to advocate and deliver services to students with ASD. Since the Center for Student Disability Services is a collaborating department, the Program Coordinator ensures that CASP participants have equal access to services and supports. The data also revealed that CASP administrators were active members on the Behavioral Education Support Team (BEST) a committee of representatives
from several student service areas to promote a “civil campus environment and support students who may be in distress”. CASP representation on this committee allowed administrators to advocate on behalf of the student and address any behavioral issues that may be preventing students with ASD from meeting their full academic potential. Awareness of the experiences and needs of college students with autism is through a united and coordinated effort of the support service departments.

**Information Dissemination.** AHEAD standards recommend that programming serving college students with disabilities disseminate information through institutional publications, provides services that increase access to the college community, and provide referrals to available campus and community resources. The Center for Student Disability Services documents student accommodations, access, and resources. This research study revealed that CASP actively worked to increase awareness of college students with ASD through flyers, presentations, and roundtable discussions. On the Central REACH project level information about the program was included in a campus newsletter, local newspaper, nation-wide presentations, and CUNY website. However, on the local campus level, information about CASP was not disseminated through a formal institutional publication such as the campus or student newspaper. Also, more than half of the study participants indicated that there was a need for CASP to have a website or Internet presence.

Since CASP participants are generally high-functioning students with no physical disabilities that prevent them from being able to access the college community. Specific services such as TDD’s and interpreter services were not required. However, the data revealed that the CASP staff members realized that they had to improve participant awareness of available services in order to improve access. Strategies were developed through the mentor program and
counseling at the Center for Student Disability Services and Personal Counseling to ensure that participants were aware of services and learned how to access supports when needed. Additionally, referrals were made to campus and community resources through the Office of Personal Counseling and the Health Clinic when required.

**Faculty/Staff/Awareness.** AHEAD recommends that college programs for students with disabilities utilize faculty, administrators, and staff consultations regarding accommodations, compliance with legal responsibilities, and general assistance. Increasing campus awareness is one of the three main goals of CASP. As mentioned before, CASP coordinates workshops, presentations, and roundtable discussions to increase campus awareness with faculty. It has also scheduled meetings with individual campus departments to discuss the experiences of college students with ASD. This study revealed that CASP has also provided one-on-one consultations with faculty members who need assistance working with students who are on the spectrum. And lastly, since the director of the Center for Students Disability Services is a CASP collaborator, she ensures that faculty, administrators, and staff members are aware of the institution’s legal responsibilities regarding appropriate academic accommodations and instructional modifications when needed.

**Academic Adjustments.** According to AHEAD, programming for students with disabilities must include a method of maintaining records that document the plan for the provision of selected accommodations, determine appropriate accommodations, and finalize responsibility for identifying effective accommodations that do not alter the program study. Again, since the director of the Center for Student Disability Services is an active CASP collaborator, a method for documenting and determining appropriate accommodations has
already been developed. The program did not have to design or incorporate this standard since it already exists.

**Instruction Interventions.** One of AHEAD’s program standards addresses the need to advocate for instruction in learning strategies such as attention and memory strategies, planning, self-monitoring, time management, organization, and problem solving (Lee, Simpson, & Shogren, 2007). The literature on college students with ASD and the data from this study revealed that the development of executive and adaptive function skills such as time management, organization, and planning skills are a challenge for successful academic outcomes. As a result, CASP included the Learning Center, Personal Counseling, and Mentor Program to increase time management, organization, and planning skills. The development of these skills will improve the academic outcomes of CASP participants.

**Counseling and Advocacy.** AHEAD’s counseling and advocacy guideline standard recommends that programming for college students assist with developing self-advocacy skills. Once again, the literature on college students with autism and data from this study revealed the need to develop self-advocacy skills to increase the identification and access of supports and services. The mentor program specifically works to inform CASP participant of support services and model how they can self-advocate for needed support.

**Policies and Procedures.** AHEAD’s policy and procedure guideline promotes standards that ensure programming for college students with disabilities develop written policies for determining and accessing “reasonable accommodations,” student rights and responsibilities, confidentiality of disability information, and a formal complaint process. As mentioned before, the Center for Student Disability Services has established written policies for all students with
disabilities. However, while this information is established through the Center for Students with Disability Services, CASP should develop their own policies and procedures to ensure that program participants are aware of their rights. As mentioned in the data, CASP participants have to sign a confidentiality agreement authorizing program staff members to discuss their case among themselves to develop tailored services or supports on behalf of the student.

**Program Development and Evaluation.** There are five standards under the Development and Evaluation guideline. The first standard suggests that programs provide services that are based on the institution’s mission or service philosophy. Brooklyn College’s mission is to:

- transform lives by providing access to outstanding undergraduate and graduate programs in the arts and sciences, business, education, and a vibrant core curriculum in the liberal arts. We are an urban, public institution, proudly situated in one of the most dynamic and diverse communities in the country. We are committed to student success and to our historic mission to provide an affordable, high-quality education to students of all backgrounds. We seek to develop knowledgeable students who are engaged in the life of the college and our community, and are prepared to think critically, lead responsibly, act ethically, and contribute globally.

Providing an affordable, high-quality education to students of all backgrounds is key to CASP, as it aims to serve a population of students requiring unique and varying support services with high costs. CASP creatively and collaboratively works to support the academic and social success of a unique student population using available resources to keep down costs, ultimately improving access.
The second standard suggests that services for students with disabilities are coordinated through a full-time professional. Currently, the director of the Office for Student Disability Services serves as the full-time coordinator for the CASP program. However, the data revealed that CASP staff members believe that the program would benefit from having a designated full-time coordinator specifically for the program. The administrative responsibilities such as managing the budget, hiring mentor program personnel, planning training activities, evaluating programs (FAR Fund/REACH requirement), and increasing campus awareness require the attention of an assigned full-time coordinator designated specifically to the program.

Standards 3 through 5 focus on collecting data on satisfaction and use of services and sharing the information with institution administrators. The third standard requires that programs collect student feedback to measure satisfaction with disability services. The data revealed that CASP collects data for an annual report required to secure funding from the FAR Fund and project REACH. The data includes a pre- and posttest to assess how the mentee and mentor believe their understanding/awareness in several skill areas has increased through the CASP program. However, there is no formal survey assessing satisfaction with services provided through CASP. The program should administer a service satisfaction survey specifically for the coordination of services through the CASP program.

The fourth and fifth standards focus on the collection of data to monitor the use of disability services and reporting program evaluation data to administrators. The report written by the director of the Center for Student Disability Services includes information on the program budget, progress, activities, obstacles and solutions, marketing and communication, media coverage, student metrics, and future plans. The report does not provide data on the use of different services by CASP participants. Given the multiple services available to students
through CASP, including data on the use of services would be helpful in understanding the effectiveness and utilization of the services provided through the program. Additionally, students on the spectrum may have accessed services independently without the assistance of the CASP program, so it would help program administrators to know how these students are performing to better understand the effectiveness of the program. Lastly, the report is shared with CASP collaborators, Project REACH administrators, and student affairs, but additional steps should be taken to share the report with the campus community.

**Training and Professional Development.** AHEAD standards recommend that programming for college students with disabilities provides disability service staff members with ongoing professional development opportunities, provides services by professional(s) with training experience working with the population, and adheres to the Association of Higher Education and Disability (AHED) Code of Ethics. This research revealed that CASP staff members attended several professional development opportunities coordinated by program administrators, CUNY, and national organizations.

**Improvements**

In regards to CASP improvements, the data revealed several different viewpoints as to what needed to be changed or added to the program. However, there were a few themes for program improvements suggested by nearly all participants. As mentioned in chapter 4, both CASP collaborators and participants recommended that the program take additional steps to increase campus awareness of both the experiences of college students with autism and CASP. Thus far, the program has taken several measures to increase campus awareness such as flyers, presentations, workshops, and roundtable discussions. While all collaborators stated that some progress has been made in increasing the awareness of ASD, challenges such as competing for
the attention of campus members who have a long list of pressing issues to contend with and/or not having a need for the information at the present time serves as an obstacle. All five of the CASP collaborators interviewed for this study suggested that there was a need for a CASP webpage or Internet presence. Both CASP student participants are members of S.O.F.E.D.U.P (Student Organization for Every Disability United for Progress), a student advocacy group for disabled members of the Brooklyn College community, and they suggested that CASP has to take aggressive actions to advertise the program and recruit students that could benefit from the support services. The directors of the Center for Students with Disability Services, the Health Clinic, and the LEADs coordinator all suggest that the program continue additional efforts to reach out to other academic and administrative departments on an individual basis to increase campus awareness.

Another major theme in suggested improvements by CASP members was the need to develop a funding source within the institution and increase available funding. The literature on programming for college students on the spectrum suggests that serving this population is costly (Nevill & White, 2001), yet CASP has been able to accomplish this endeavor with minimal financial support by collaborating and coordinating available resources (Longtin, 2014). Currently, the program relies on a grant from the FAR Fund and Project Reach for funding. Since the inception of CASP in 2012, the program has been able to secure funding from these external sources on an annual basis. Three of the program’s collaborators suggested that the institution should fund the program internally for consistency. In order to receive internal funding for CASP, the program would need to become an institutional priority and college administrators would have to make a decision to allocate funding.
Once permanent funding is secured, the director of the Center for Student Disability Services and the CASP Mentor Program Supervisor suggest that the program hire a full-time coordinator. This suggestion aligns with the research-based guidelines developed by AHEAD’s standard (Shaw & Dukes, 2001) to hire a full-time staff member to coordinate program activities. An examination of CASP based on AHEAD’s program standards also revealed that a designated program coordinator could help with developing a formal and consistent evaluation process. The additional funding could also work to develop the mentoring program.

**Mentor program.** Similar to the research on the use of mentor programs to increase the social experiences of college students with ASD (Welkowitz & Baker, 2005), the data in chapter 4 revealed that the mentor program is a positive component of CASP. The impact is twofold, with CASP participants receiving assistance developing social, academic, self-advocacy, and emotional support, and mentors receiving an educational understanding about the experiences of students with ASD. However, both CASP staff members and participants stated that there was a need to increase the recruitment of mentors. Currently some mentors are assigned more than one mentee, which becomes a challenge in combination with the other academic, social, and work responsibilities of mentors. The CASP mentor supervisor believes that additional funding will allow CASP to hire more mentors and increase the effectiveness of the program. The director of the Office for Student Disability Services also suggests that having funds allocated by the institution will allow for a controlled hiring process that is conducted in line with the college’s academic and fiscal calendar instead of receiving funds from an external agency which often happens too late in the academic calendar to hire mentors who have other obligations by that time. This funding will also increase the retention of mentors, which will reduce mentor and mentee concerns of re-establishing relationships every semester.
Additional Program Recommendations

The program improvements described above will all be used as CASP program recommendations, in addition to suggestions from AHEAD’s standards, and a guide for college personnel working with students with Asperger syndrome written by Lorraine E. Wolf, Jane Thierfeld Brown, and G. Ruth Kukiela Bork. The additional recommendations include more suggestions to increase campus awareness, improving the mentor/mentee relationship, and progressing to a summative program evaluation.

As mentioned in the last section, increasing campus awareness of the experiences of college students with autism and the CASP program was a concern for all study participants. Suggested improvements include developing a website, partnering with the student advocacy group, and continuing efforts to form relationships with academic and administrative offices. In order to increase campus awareness, additional recommendations for CASP include suggestions for campus partnerships highlighted by Wolf, Brown, and Bork’s (2009) guide, which includes upper administration, academic affairs (faculty, advising, and administration), Business Affairs (registrar, financial assistance, admissions, enrollment, and retention), Campus Police and Public Safety Officers, Judicial Affairs, Student Activities and Community Service, and Housing and Residential Life (while Brooklyn is a commuter college, a residence hall was recently built for students). Scheduling individual meetings with these areas to discuss CASP and the needs of college students with ASD could help increase awareness with key departments that work with students. At the time of this evaluation, CASP was in the process of scheduling meetings with several academic departments for a discussion of CASP, the experience of students with ASD, and opportunities for conducting training sessions. CASP should continue these efforts with the goal of at least one contact with all departments.
CASP should foster a working partnership with the Office of Undergraduate Admissions since it is responsible for recruiting students from NYC, Long Island, and Upstate New York. The Office of Undergraduate Admissions has contacts at all of the high schools in the City and often sends them marketing material to advertise the college and its programs. CASP can take advantage of these established connections and ask recruiters to take program flyers with them to high school visits. Similarly, Brooklyn College recruiters attend college fairs throughout New York City, which can be another way to spread the word about CASP. Recruiters from the Office of Admissions could also introduce point people from the CASP program to guidance counselors and other administrators from local high schools. Forging these relationships can aid in the recruitment of high school students on the spectrum that may be interested in the program. The presence of this material in guidance counselor office will also communicate to students with ASD and their parents that there are options available to them at local colleges. Students can be encouraged to develop transition plans that include college as a postschool option.

Additionally, as suggested in AHEAD’s program standards, the program should disseminate information through institutional electronic and printed publications. There are several other methods for CASP administrators to increase awareness of the program on campus. Brooklyn College recently purchased large video screens throughout campus to communicate important information to the college community. CASP can make a request to include information about the program on these video screens, which are located in high-traffic administrative, academic, and student activity areas. Brooklyn College has three student newspapers that the program can contact to advertise the program and possibly have an article written about the work being done by CASP and/or the experiences of the program’s participants. Social media has become an important tool for promoting and advertising. Currently
there is a Facebook page titled “Brooklyn in the Know” that has become a resource for Brooklyn College students. CASP could share information about the program on this page and/or any other Brooklyn College affiliated pages on Facebook.

Study participants suggested that additional funding, allocated in alignment with the college’s fiscal calendar, would improve hiring for the mentor program and increase the retention of mentors from previous semesters. Both mentors and mentees expressed that it was difficult to take the time to establish a relationship for one or two semesters and then start with someone new the next semester. Ideally, the mentor/mentee relationship will last for the duration of the student’s enrollment in the program, but realistically things happen and mentors may not be able to commit for that length of time. When addressing these issues, the program has to find ways to assist with the development of this relationship. Wolf, Brown, and Bork (2009), provide several forms and tools to assist with “Getting to know your student” that can be used by mentors and mentees. One of the tools is a detailed questionnaire that collects general data such as contact information, family support, educational background, student activities, tutoring, personal care, health and disability information, transportation, and personal strengths, weaknesses, and goals. Another tool is the “Areas of Difficulty Checklist,” which is a self-assessment requesting that students check statements listings areas of difficulties for students with ASD. These statements are categorized by learning and memory, attention and organization, communication skills, behavior, interpersonal skills, sensory emotions, wellness and self-care, and campus resource needs. This questionnaire is a little more detailed than the one currently provided by CASP and can provide mentors with significantly more information about their mentees’ needs.

This formative program evaluation examines existing program elements and provides recommendations for improvements since the program is relatively new, but the next step would
be to prepare for a summative program evaluation that examines the effectiveness of the program. The director of the Office for Student Disabilities Services has collected data and conducted an internal evaluation as a requirement for refunding. The data collected includes enrollment numbers, budget summary, program development progress, a description of the objective of scheduled activities and events and their respective outcomes, questionnaire results, and case studies describing the experiences of CASP participants. The questionnaire administered to mentors and mentees assesses how they feel specific skills have improved because of the program. However, there was missing data that affected the ability to utilize the data. The program should continue to collect this data, and collect additional data on participant satisfaction with services provided. AHEAD’s program standards suggest that program evaluations document and monitor the use of services. Currently, the program does not document all of the services used by each program participant. AHEAD also recommends that the program collect student feedback on satisfaction of services. The evaluation should also identify indicators to measure program outcomes to assess the effectiveness of the program. As suggested by Longtin (2014), the program should evaluate measures such as the completion of course requirements, completion of degree, development of career plans, successful integration into the college community, retention rates, and postgraduate outcomes.

The following table summarizes all of the suggestions for program improvements from study participants and the recommendations resulting from this formative program evaluation.
**Table 5.2**

**Program Recommendations**

<table>
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<tr>
<th>Program Recommendations</th>
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<tbody>
<tr>
<td>Increase campus awareness</td>
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<tr>
<td>• Create a website or internet presence</td>
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<tr>
<td>• Partner with student advocacy group (S.O.F.E.D.U.P.)</td>
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<tr>
<td>• Build partnerships with academic and administrative offices</td>
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<tr>
<td>• Utilize social media</td>
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<tr>
<td>• Contact school newspapers</td>
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<tr>
<td>• Advertise on large video screens on campus</td>
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<tr>
<td>Recruitment/increase community awareness</td>
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<tr>
<td>• Partner with the Office of Admissions</td>
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<td>• Request that recruiters take program flyers with</td>
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<tr>
<td>• Partner with guidance counselors and administrators from local high schools</td>
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<tr>
<td>Funding</td>
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<tr>
<td>• Develop internal funding source</td>
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<tr>
<td>• Hire a full-time coordinator</td>
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<td>• Hire additional mentors prior to the beginning of the semester</td>
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<tr>
<td>Mentor program</td>
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<tr>
<td>• Improve recruitment of mentors</td>
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<tr>
<td>• Use tools to aid with developing mentor/mentee relationship</td>
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<tr>
<td>Program evaluation</td>
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<tr>
<td>• Collect additional data about services used</td>
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<tr>
<td>• Administer a survey on satisfaction with services provided</td>
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<tr>
<td>• Identify indicators to measure program outcomes</td>
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<tr>
<td>Services</td>
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<tr>
<td>• Increase the usage of available services</td>
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<tr>
<td>• Tailor services provided through the learning center</td>
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</table>

**Implications and Recommendations for Practice**

The increase in the prevalence of autism in the last decade and the growing enrollment of this population in colleges around the nation requires higher education institutions to actively examine how they support college students on the spectrum (Hart, Grigal, & Weir, 2010). As required by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) colleges and universities must provide access to all educational programs to eligible
individuals with disabilities. Every year postsecondary institutions around the country are developing programs to support students with ASD, but find that supporting this unique population requires more than just providing traditional academic accommodations to improve educational outcomes. Social, interpersonal, adaptive, and executive functioning supports are required to improve the academic and social experience required to attaining a college degree.

In order to serve college students on the spectrum, the entire campus, including administration, needs to be involved. The type of holistic person-centered support required for college students with autism can be challenging and costly for higher education institutions. Allocating funding requires institution leaders and administrators to recognize that serving this population is an institutional priority. Also, once administration recognizes the importance of improving the educational and social experiences of college students on the autism spectrum, they can set the tone for the entire institution and assist with efforts to increase campus awareness. The voices of CASP staff members and administrators revealed how important it is for the campus to be aware of the experiences of college students with ASD and the supports and services available through the program. The data revealed that increased awareness would improve the enrollment in CASP and the utilization of available services. Increasing awareness is one of the most important steps practitioners can take to support this population.

This study reveals how colleges and universities can utilize already existing resources to support students with ASD. Six different support service departments were tapped to collaborate and coordinate supports for this population. Together, these departments provide tutoring, mentoring, social-skills training, individualized career counseling, individualized comprehensive outpatient medical services, mental health counseling and referral, and educational training to faculty, staff and the greater campus community. This research demonstrates how colleges can
utilize the existing infrastructure to support college students with ASD. This practice has significant implications for disability service offices designing programs for student with ASD at institutions that have limited resources. Additionally, the utilization of current graduate students as mentors to aid with the transition into the college setting and the development social skills demonstrates how colleges and universities can successfully utilize existing resources to support students on the autism spectrum.

A widespread oversight made by practitioners working with college students with autism is providing them with the accommodations, supports, and services generally given to other students with disabilities. This research revealed that regular academic accommodations are not enough for students with ASD. Applying the same laundry list of accommodations that works with one student may not work with another student on the spectrum. While all students may have the same long-term outcomes, the supports each student needs to attain their goals will be different. The case examples provided by CASP participants and staff members revealed that students on the spectrum are different so it is important to look at their individuals needs and customize services and supports.

The next step to this formative program evaluation is to share the study results with the program supervisors. CASP collaborators and contributors are interested in any feedback or suggested changes they can make to improve the program. CASP participants and collaborators unanimously developed many of the suggested improvements and recommendations. Implementing these changes will significantly contribute to the development of CASP. In addition to sharing information from this study, this researcher will be available to assist with the development of the summative program evaluation recommended by this current evaluation. This researcher will also be available to continue working to support and assist CASP.
Limitations of Study

As a formative program evaluation, the purpose of this study was to examine identified supports for college students and how they align with desired outcomes, but a limitation to this approach, is understanding how effective these supports are in attaining the desired outcome. While there are justifications for the implementation of specific interventions, this study did not allow for a better understanding of how effective the services and processes were.

The incomplete responses from CASP student participants were the other limitation of this study. Given the fact that this study focused on college students on the autism spectrum there was an expectation that study participants who may have limited social skills would not feel comfortable speaking with someone. While two participants were very comfortable sharing their story and embraced an opportunity to share their experiences, one student did not want to meet in-person for an interview, and the other participant profoundly stated that he “did not want to speak about his autism”. While we might want to better understand the experiences of students with ASD, ultimately they are individuals who just want to live their lives like everyone else. As researchers, it is imperative that we respect the rights of the individuals we recruit for our studies.

Credibility and Trustworthiness

Program evaluation designs allow for the use of multiple data collection methods to increase reliability. The use of a wide-range of participants including program personnel, faculty members, mentors, and students allowed for more detail and reliability in study findings. Member checking was also utilized to increase the accuracy in the data provided by study participants in interviews. Upon completion of the interview, participants were given a copy of the transcripts to confirm the data accuracy. Participant bias is often a concern when conducting
a study, especially a program evaluation. This study’s participants are all stakeholders in CASP and may want to ensure that the program is captured in a positive light. The fact that this was a formative program evaluation and the role of the researcher was clearly communicated as someone who wants to better understand the program aided in ensuring that the information provided could be trusted (Wholey, Hatry, & Newcomer, 2010). Participants know that the program is new and they expected that there are areas that need to be improved. Furthermore, the study participants were given an opportunity to make their own recommendation for improvements, which made them a part of the evaluation process instead of being the object of the evaluation.

**Implications for Future Study**

The main goal of this research was to understand the experiences of college students on the autism spectrum, how a collaborative interdisciplinary program meets their needs, and how the program can be improved. This study was a formative program evaluation, which means that the focus of this investigation was on how the program was developed and what can be improved as opposed to the effectiveness of the program. As CASP continues to grow and develop a summative program evaluation should be conducted to investigate the effectiveness of the program.

This evaluation examined the different supports required by students with ASD, and how higher education institutions can better serve this population. It is evident from the literature and this study that college students on the autism spectrum require unique and creative approaches. The research suggests that higher education institutions must prepare to support this growing population. Future studies should examine the effectiveness of selected supports and interventions for college students with ASD. Empirical evidence supporting the effectiveness of
programming on the academic outcomes of college students on the autism spectrum will shed additional light on the success of identified supports and services.

The current study shared the stories of personnel developing programming for college students with ASD utilizing existing resources and collaborating to serve a unique population often requiring costly services and supports. Additional research should be conducted to understand how other institutions could implement similar programming, given limited financial resources for institutions of higher education.

Conclusion

This formative program evaluation shows how six departments at a public college collaborated and utilized existing resources to serve college students on the autism spectrum. The Collaborative Autism Spectrum Program’s intended outcomes are to improve the academic and social outcomes of college students with ASD through the implementation of services from multiple departments, a graduate student mentor program, and in-service training for faculty, staff, and administrators. This research used Lipsey’s (1993) program theory to examine the link between the selected inputs and the outcomes. The services selected to improve academic success were tutoring, mentoring, social-skills training, individualized career counseling, individualized comprehensive outpatient medical services, mental health counseling and referral, and educational/professional training. These service departments provide individualized supports and interventions, as opposed to traditional accommodations provided to other students with disabilities.

This study revealed how the experiences of CASP participants were improved both through the services provided by the six service departments, but also the graduate mentor
program. The mentor program is an invaluable element of CASP, and its participants have all shared that it helped them develop social skills and provided them with the emotional support they needed to pursue their academic goals. This study also revealed the importance of campus awareness on the outcomes of college students with ASD. Having a supportive campus environment and available supports that are accessible to CASP participants are vital to their success. As the enrollment of college students with ASD grows, this research will help institutions develop customized programming that effectively supports this population.
Appendix A

Certificate of Completion: NIH Protecting Human Research Participants

Certificate of Completion
The National Institutes of Health (NIH) Office of Extramural Research certifies that Natalie Coombs successfully completed the NIH Web-based training course “Protecting Human Research Participants”.
Date of completion: 11/12/2013
Certification Number: 1325157

http://phrp.nihtraining.com/users/cert.php?c=1324157
11/12/2013
Appendix B
Site Access Letter

[Date]

Milga Morales, Ph.D.
Vice President for Student Affairs
2900 Bedford Avenue
Brooklyn, NY 11210

Re: Collaborative Autism Support Program Site Access

Dear Dr. Morales,

This email is to formally request your permission to access Brooklyn College’s Collaborative Autism Support Program (CASP) for my doctoral thesis study during the summer and fall of 2015. As you know, I plan on conducting a formative program evaluation on CASP as it seeks to serve college students with autism. The results of this evaluation will assess if the program is meeting its goals and make recommendations for improvements to aid with the development of the program. This evaluation will shed light on the services and supports provided by the institution. A formal evaluation will also increase exposure to the program and help to develop similar programs at other institutions of higher education.

This project will involve interviewing administrators, staff members, mentors, faculty, and students associated with CASP. The study will also include the program documentation such as reports, grant requests, program and individualized plans, and field notes. This data will only be used in a manner where program participants will not be identified. All steps will be taken to protect the identity of program participants and individuals interviewed for this study. I may also need access to the research site to observe program meetings. These observations will also remain confidential.

Thank you in advance for the opportunity to access CASP for my doctoral thesis. The development of CASP has been a tremendous effort to improve the experiences of college students on the autism spectrum and improve campus awareness.

Sincerely,

Natalie coombs

Ed.D. Candidate
[Date]

Valerie Stewart-Lovell
Center for Student Disability Services
CUNY/Brooklyn College
Brooklyn, NY 11203

Re: Collaborative Autism Support Program Site Access

Dear Valerie Stewart-Lovell,

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Sincerely,

Natalie coombs
Ed.D. Candidate
Appendix C
Interview Questions
(Personnel, Faculty, and Mentors)

1. How was CASP developed?
   a. How were the services and interventions implemented by CASP identified for the population it serves?
   b. What are some of the written policies and procedures adopted by CASP?
2. How do the six service departments of CASP collaborate to serve students participating in CASP?
3. How does CASP improve the educational outcomes and socials skills of its students?
   a. How does the Center for Student Disability Services support students participating in CASP?
   b. How does the Brooklyn College Health Clinic serve students in CASP?
   c. How does Personal Counseling service students participating in CASP?
   d. How does the Learning Center support students in CASP?
   e. How does the Magner Career Center serve college students participating in CASP?
4. How do graduate student mentors help to improve the social skills of students with ASD participating in CASP?
5. How do graduate student mentors help students participating in CASP adapt to the Brooklyn College campus?
6. What professional development and training opportunities are provided to personnel working with CASP?
7. How has in-person training increased campus awareness of the experiences of students with ASD?
   a. How has in-person training increased faculty awareness of the experiences of students with ASD?
   b. How has in-person training increased staff awareness of the experiences of students with ASD?
8. How does CASP assist students with the development of self-advocacy skills?
9. How have students with ASD accessed services offered through CASP?
10. How is information about CASP disseminated to the college and surrounding community?
11. How do you think CASP can be improved?
Interview Questions
(CASP Participants)

1. What challenges have you experienced as a college student with autism spectrum disorders?
2. How did you hear about Collaborative Autism Support Program (CASP)?
3. How did you access the program? What services have you utilized?
4. How has the program helped you meet your academic goals? Name three things from this program that were most helpful to you.
5. How has your mentor helped develop your social skills and integration into the college environment?
6. Has CASP helped you develop a career plan? If so, how?
7. Do you think the program has improved awareness of autism spectrum disorders on campus? Can you provide an example?
8. How do you think the program can be improved?
9. Is there any additional information you would like to provide me about your experience in CASP?

How old are you?

What is your class standing?
Appendix D
Observation Protocol

Date: ________

Time: ________

Length of observation: ____________

Site: _________________________________

Description of activities:
______________________________________________________________________________
______________________________________________________________________________

Participants:
______________________________________________________________________________
______________________________________________________________________________

Description of participants:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Description of physical setting:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Visual layout:
Description of events:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Participant’s Comments:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Reflective comments:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
References


Rothstein, L. F. (2012). Disability law and higher education: A road map for where we’ve been and where we may be heading. *Maryland Law Review, 63*(1), 122-161.


