2-1-2021

Building a strength-based support program for college students with autism

DeAnn Lechtenberger
Texas Tech University, deann.lechtenberger@ttu.edu

Wesley H. Dotson
University of Missouri, wdotson@health.missouri.edu

Eriko Fukuda
Tilburg University in the Netherlands, eriko.fukuda@tilburguniversity.edu

Rebecca Beights
Irabina Autism Services, Melbourne, Australia, becca.beights@gmail.com

Jennifer Hamrick
Texas Tech University, jennifer.hamrick@ttu.edu

Follow this and additional works at: https://scholarworks.sfasu.edu/jhstrp

See next page for additional authors

Part of the Accessibility Commons, Adult and Continuing Education Commons, Community College Education Administration Commons, Community College Leadership Commons, Disability Studies Commons, Higher Education Commons, Higher Education Administration Commons, and the Special Education Administration Commons

Tell us how this article helped you.

Recommended Citation

Building a strength-based support program for college students with autism

Authors

DeAnn Lechtenberger, Wesley H. Dotson, Eriko Fukuda, Rebecca Beights, Jennifer Hamrick, James Williams, and Barry Lovelace

Abstract

The Centers for Disease Control (2014) estimates there are more than 3.5 million individuals living with autism spectrum disorders (ASD) in the United States, resulting in a dramatic increase in the number of young adults with ASD who hope to pursue a post-secondary education over the next ten years (Hart, Grigal, & Weir, 2010; Stodden & Mruzek, 2010; VanBergeijk). Researchers further estimate that as many as 50,000 Americans with ASD will turn 18 each year as a part of the surging increase in children diagnosed with the disability (Roux, Shattuck, Cooper, Anderson, Wagner, & Narendorf, 2013; VanBergeijk et al., 2008). This report marks one of the first large-scale, empirical evaluations of a comprehensive support program for young adults with ASD attending college. This is an important first step in expanding both the empirical literature on college supports and expanding knowledge of programs designed specifically for degree-seeking students with ASD.

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

Building a Strength-Based College Support Program for College Students with Autism and Other Developmental Disabilities

Autism Spectrum Disorder (ASD) is the fastest-growing disability category in the United States, with the prevalence of ASD estimated in 2016 as 1 in 68 (Centers for Disease Control and Prevention, CDC, 2012; Christensen et al., 2016), and now estimated at 1 in 59 8-yr olds in 2018 (Baio et al., 2018). Furthermore, the CDC (2014) estimated more than 3.5 million individuals are living with ASD in the US, resulting in a dramatic increase of young adults with ASD hoping to pursue a post-secondary education over the next ten years (Camarena & Sarigiani, 2009; Hart et al., 2010; VanBergeijk et al., 2008). Transition researchers further estimate that as many as 50,000 Americans with ASD will turn 18 each year as a result of the surging increase in children diagnosed with ASD (Roux et al., 2013; VanBergeijk et al., 2008).

Students with ASD are often unemployed or underemployed once they complete high school, with only 58% of young adults with ASD working for pay in their early 20s, a rate much lower than all other disability groups and their non-disabled peers (Roux et al., 2015). Researchers have noted that the two biggest predictors of students with ASD obtaining competitive, higher earning, and full-time employment are (1) participation in post-secondary education and (2) vocational experience with access to vocational rehabilitation services (Migliore et al., 2012). Unfortunately, only 10% of students with ASD who are attending post-secondary programs receive support from state vocational rehabilitation services to continue their educational training (Migliore et al., 2012).

Post-secondary enrollment rates for individuals with ASD have increased from < 25% attending any kind of post-secondary program in 2005 (Wagner et al., 2005) to more than 40% in 2012 (Chiang et al., 2012; Migliore et al., 2012; Office of Special Education Programs, 2009). As the number of individuals with ASD attending college increases, so too has attention from researchers and clinicians (Jackson et al., 2018).

Although more students with ASD attend institutions of higher education than ever before, they often fall behind their neurotypical peers. While students with ASD may have academic skills to meet the college entrance requirements, they still face substantial challenges and delays in executive functioning, communications, and social skills (Ashbaugh et al., 2017; Elias & White, 2018; Jackson, Hart, Brown, et al., 2018). For example, fewer individuals with ASD attend college than their peers (40% vs. >60%), and significantly fewer complete a certificate or degree program within six years (<25% vs. 40%) (Wagner et al., 2005).

Currently, several college programs support students with ASD who desire a postsecondary experience (Moore & Carey, 2005; Swartz et al., 2005), but most of these programs are targeted at providing a "college experience" rather than assisting students to complete a postsecondary certificate or degree (Alpern & Zager, 2007; Zager & Alpern, 2010). Students in these "college experience" programs may or may not live on campus, and they are often enrolled in non-credit courses or a separate curriculum that teaches functional employment and independent living skills.

Other colleges and universities have expanded their services to include university orientation courses, instructional accommodations, and assistance from disability services offices, tutoring centers, counseling centers, and peer-mentoring programs (VanBergeijk et al., 2008). Gelbar et al. (2014) completed a review of 20 articles describing services and supports for college students with ASD. Sixty percent of the articles (n=12) described academic supports including accommodations (n=9, 75%) such as extra time to complete exams (67%), extra lecture notes prepared by the instructor (56%), testing in a separate location (33%), extended

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

deadlines (22%), lecture notes from peers (22%), oral (vs. written) exams (11%), and increased professor guidance in group projects (11%). Twenty-five percent (n=3) described individualized course modifications such as individual, instead of group, projects. Forty-five percent of the reviewed studies (n=9) described non-academic supports, including peer mentorship (56%) and assigned counselors or aides (56%). More recent research has reported efforts at creating social support activities or providing individualized counseling or academic interventions (e.g., Ashbaugh et al., 2017; Jackson et al., 2018; Lucas & Kames, 2018; Sarrett, 2018; Weiss & Rohland, 2015).

There is a need for programs designed within and across the university environment, rather than parallel to or independent of broader university services. This need applies to how staff within colleges and universities perceive students with ASD and how students with ASD perceive their institution. When students enter the world of higher education, their interactions with faculty, staff, other students, and their other collegiate experiences (i.e., dorms, clubs, and social events) shape their view of college life. If these interactions are not positive, students with ASD may view college negatively. Even with the increase in college enrollment for students with disabilities, including those with ASD, many of these students fail to successfully complete their higher education by earning a degree and instead choose to abandon their dreams of a college education and vocational preparation (Quick et al., 2003; Sanford et al., 2011).

A few possible reasons have been identified why students with disabilities, in general, fail to successfully complete their degrees. One possibility is a lack of understanding from faculty, staff, and students regarding students with disabilities and the type of support they need to succeed (Greenbaum et al., 1995). Others involve a lack of connection with peers and negative social experiences with instructors, which can be very discouraging and anxiety-provoking for students with ASD. Wilson et al. (2000) noted that students with disabilities often reported their interactions with college faculty and administrators demonstrated an overall lack of knowledge and understanding concerning the issues and challenges they faced on campus. Many of these reports noted that both faculty and students held stereotypic and discriminatory views that made students with disabilities feel less than welcome on campus (Gmelch, 1998; Lehmann et al., 2000). Rao (2004) also concluded that faculty and staff employed by institutions of higher education needed better information about disabilities and how to include students with disabilities in their classes and campus activities.

While legislative mandates direct colleges to accommodate students with disabilities, many students with ASD are not maximizing or even accessing the services to which they are entitled. Many students do not seek out accommodations, and/or they apply for them too late in the semester, when their grades are already in jeopardy. Hartman (1993) found that several campus disability service providers reported that while as many as 9% of students had a disability, only 1-3% of students requested disability-related services or supports. Possible explanations include that college students who have a disability may be (a) apprehensive for fear of discrimination, (b) unable to identify their academic needs, or (c) simply desire to assert a new identity by playing down their disability and seeking more independence when entering higher education (Barnard et al., 2008; Barnard-Brak et al., 2010; Barnard-Brak et al., 2010; Lynch & Gussel, 1996).

College students with disabilities must self-advocate and register with campus disability support services to receive accommodations (Lynch & Gussel, 1996). This process can be intimidating for students because, unlike public schools, universities and colleges do not have a mandatory planning process or meeting such as the Individual Educational Plan (IEP), so

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

university faculty rarely become familiar with the issues facing students with disabilities, especially those with ASD. Thus, academic coordinators and campus disability service providers often note their "dissatisfaction with how well high school staff informed students of the services available for students with disabilities at the college level" (Janiga & Costenbader, 2002, p. 466).

A final but serious problem facing those wishing to help individuals with ASD succeed in college is that students rarely want to be identified as different. These students can be resistant to registering with the disability services office or to attending therapy or support groups where they might be identified as having ASD. Even having to enter a building or office that is labeled "disability services" or "autism center" may prevent students from seeking assistance. Therefore, any kind of support program must offer services in a way that will increase student willingness to access the program while minimizing the stigma usually associated with disability services.

There remains a significant gap in the literature around examples of formal support programs designed explicitly to address the unique needs of college students with ASD. There is also a need to develop interventions that help students build more comprehensive, individualized support networks within their post-secondary environments. The purpose of the current paper is to provide a description and initial four-year evaluation of one program designed to support degree-seeking college students with ASD using such a model.

Program Description

CASE: Connections for Academic Success and Employment is located on the campus of a large state university in the Southwestern United States. The CASE program utilizes a strength-based model of support based on a three-prong approach: 1) the Wraparound Planning Process, 2) Birkman Assessment Method, and 3) Learning Specialists.

Wraparound Planning Process

Wraparound Planning Process is a strength-based, individualized team service delivery process for organizing and coordinating services and supports for students enrolled in the CASE program. Dr. Lenore Behar coined the term 'Wraparound' in the 1980s to describe the process of applying a comprehensive, multi-system, community-based model of care that could be individualized to meet the unique family needs of children and youth with emotional, behavioral disorders (EBD) in North Carolina (Burchard et al., 2002; Goldman, 1991; Walker et al., 2008). Wraparound, as traditionally implemented, is defined as an intensive, holistic method of engaging with individuals with complex needs so that they can live in their homes and communities (Quick et al., 2014; Suter & Burns, 2009). As a well-established process for providing comprehensive, community-based care for youth with EBD, it is estimated that close to 100,000 children were enrolled in over 800 Wraparound programs across the United States report (Walker & Matarese, 2011). CASE: Connections for Academic Success and Employment is located on the campus of a large state university in the Southwestern United States. The CASE program utilizes a strength-based model of support based on a three-prong approach: 1) the Wraparound Planning Process, 2) Birkman Assessment Method, and 3) Learning Specialists.

The term 'Wraparound' has evolved to refer more broadly to a process that incorporates high-level coordination and comprehensiveness in the delivery of community-based services (VanDenBerg et al., 2003). The process has been implemented in more conventional mental health and child welfare settings, as well as novel settings that include the juvenile justice system (Kamradt 2000; Kerbs et al., 2004), substance abuse programs (Pringle et al., 2002; Oser et al., 2009), and high-risk teen parenting programs (Fries et al., 2012). Extension of the Wraparound process has also been applied to educational settings focusing on outcomes such as improved K-12 school attendance, retention, and less restrictive educational placements for students with

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

challenging behaviors (Eber & Nelson, 1997; Eber et al., 1996; Suter & Bruns, 2009). The effectiveness of Wraparound has been documented in the U. S. Surgeon General's reports for both Children's Mental Health (U.S. Public Health Services, 2001) and Youth Violence (Office of the Surgeon General (US), National Center for Injury Prevention and Control (U.S.), National Institute of Mental Health (U.S.), & Center for Mental Health Services (U.S.), 2001) and it has been required for use in several federal grant programs and presented by leading researchers as a mechanism for improving the application of evidence-based interventions for individuals with challenging behaviors who need multi-system supports and services. Wraparound also provides a team approach process that develops the problem-solving skills, coping skills, and self-efficacy of young people to be successfully integrated into the community and building the individual's social support network (National Wraparound Initiative Advisory Group, n.d.).

A key feature of the Wraparound process is the Wraparound Team, customarily comprised of the student (youth), parents and family members, mental health personnel, other service providers, and informal members (e.g., volunteers, teachers, tutors, coaches, friends) who are selected by the youth. The appointed team facilitator oversees the team in conducting a strengths-based assessment and generating a life domain profile with prioritized areas for targeted, individualized supports and interventions. The resulting Wraparound Plan documents prioritized goals, systematic methods for achieving those goals, and which team member will take the lead in gathering resources and supporting the targeted individual reach his or her goal. Regular meetings address the implementation of services, progress towards goal completion, barriers to completion, and necessary revisions. Interventions focus on the natural setting and are not limited to existing systems or services and may lead to the restructuring of existing systems to meet the youth's needs.

CASE is an innovative, fully inclusive support program for college students with ASD based on the Wraparound model. Students served during the first four years of the program were ages 18-25 years and pursuing a post-secondary education 2-or 4-year academic degree or vocational certificate. CASE was originally a federally funded program awarded from a state developmental disabilities council and developed at a university in the southwestern region of the United States. The primary goals of the program were to keep college students with ASD enrolled, support them through graduation, and prepare them for integrated, competitive employment in a career field of their choice after graduation.

The National Wraparound Initiative has identified ten key characteristics of Wraparound: family voice and choice, team-based, natural supports, collaborative, community-based, culturally competent, individualized, strengths-based, persistence, and outcomes-based (Bruns et al., 2004). Based on these core elements, the CASE PD hypothesized Wraparound to be a promising practice model for a college setting aiming to support students with ASD. Wraparound is a team-based process that includes a diverse group of individuals who know the family and represent formal agencies as well as informal supports from the family's natural environment. Utilization of a cross-discipline and inter-organizational collaboration approach is highly encouraged. Wraparound plans are individualized and developed by the team and reflect family voice and choice when it comes to services and supports and the service provider who will arrange for these resources. Wraparound utilizes a strength-based approach that builds and focuses on the interests, skills, talents, and natural resources of the family and uses them to promote growth to address the challenges facing the family or the targeted individual. Interventions and supports are meant to be varied and pull from multiple sources from formal human service agencies and informal, natural community supports. Finally, a systematic review

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

of an individual's progress, intervention integrity, and team accountability are addressed at each monthly Wraparound Team meeting (Haber et al., 2012).

The CASE program was designed to comprehensively address the unique and multifaceted needs of students with ASD pursuing post-secondary education by providing an individualized, strengths-based team planning process known as Wraparound to coordinate services and support for each student. The Wraparound process was utilized by CASE for students who needed more than what typical campus disability services provided.

In the Wraparound model, as it relates to CASE's implementation, areas of need are identified and prioritized for each student across twelve life domains: Education, Residential, Social/Recreational, Family, Vocational, Self-Care, Health/Medical, Safety, Cultural, Legal, Spiritual, and Financial. These life domains gave a basic structure for the student's Wraparound Team meetings and the resulting individual Wraparound Plans documenting the student's prioritized goals, working interventions/strategies, and the individuals or entities and resources designated to support the student to meet goals their identified and prioritized goals.

To accomplish the goals of CASE, the traditional Wraparound process model was slightly modified to better address the strengths and challenges of young adults learning to live independently in college. The CASE Wraparound model process was structure to address the ten principles and guidelines of traditional Wraparound. The modified version of the Wraparound process model for CASE differed in a few distinctive ways (see Table 1).

(Table 1)

As one compares the CASE wraparound process version to the Bruns model, the similarities include that each wraparound plan is still team-based, collaborative, community-based, culturally competent, individualized, strengths-based, and outcome-based. The major differences are family-driven, and natural supports since CASE uses young adult student's voices and choices for identifying the supports on the college campus and in the community vs. the natural supports connected to the family and their home community. Additionally, Wraparound is unconditional, and we are not totally unconditional because if the student graduates or is no longer enrolled in college, then their services cease from CASE because the program serves students enrolled in college at the undergraduate or graduate level.

The Birkman Method Assessment

The Birkman Method Assessment (Fink & Capparell, 2013) is an online assessment traditionally used in pre-employment decision-making, executive coaching, leadership development, career management, and interpersonal relationship building. It measures personality, social perception, and occupational interests and reports behavioral strengths, motivations, expectations, stress behaviors, and career profiles. It helps respondents discover: (1) how to manage themselves and others more effectively, (2) identify their strengths and interests, (3) potential careers where they can thrive, (4) college majors in which they can be successful, and (5) what causes stress and how it can be managed.

The assessment contains 298 items and takes approximately 30 minutes to complete. The results of the assessment include:

- Usual Behavior: effective behavioral styles for tasks and relationships.
- Underlying Needs: internal perceptions and expectations for how tasks and relationships should be governed.
- Stress Behavior: ineffective behavioral styles when needs go unmet.
- Interests: vocational and avocational preferences.
- Occupational Alignment: 22 job families, 200+ job titles

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

- Management Styles: approach to managing tasks and people
- Work Environment: the work environment that brings the best support and fit

Upon completion of the assessment, the online system generates an individualized report highlighting approximately 33 personal strengths of the respondent (e.g. logical in thought process, self-assertive, decisive), as well as a description of optimal learning and working environments for that student. Potential stressors and behaviors the respondent might engage in, if working outside of those optional conditions are also reported in the results.

In addition to strengths, the report provides a list of the best and least-matched vocational interests of the more than 200 job titles in the inventory. The ten vocational interests that best match the respondents' interests and strengths are ranked, as they relate to the identified strengths of that student for each vocation.

In sum, the Birkman helps our students learn more about their productive behaviors, stress behaviors, underlying needs, motivations, and organizational orientation. A debriefing with the student is required before CASE services begin. The results of the Birkman, especially the student's strengths, are incorporated into each student's individualized Wraparound Plan.

CASE Learning Specialists

CASE Learning Specialists are specifically trained to coach and support students with autism and other developmental disabilities through the use of the Wraparound Planning Process. Learning Specialists mentor and help each student identify, access, and coordinate needed campus and community services/supports. Their job in working with each student is to fill the gap between therapeutic services and job coaching to help students reach their academic goals and obtain integrated, competitive employment.

To maintain the fidelity of the Wraparound model, ongoing training, coaching, and supervision of staff are required (Bruns, 2015). Learning Specialists facilitated monthly Wraparound Team meetings and were coached and supervised by the CASE PD, who had extensive training and experience in special education and collaborative models, specifically, Wraparound. The CASE PD had over thirty years of experience working with individuals with disabilities and had a terminal degree in special education. In addition to administrative program duties and management of CASE staff, the CASE PD reviewed student applications, led interviews with each student and their family, and debriefed the results of the Birkman Assessment given to each student to identify student interests, strengths, needs, and potential college majors and career paths leading to their preferred career outcomes.

The Learning Specialists' role was like that of the role of 'facilitator' in the traditional Wraparound Planning process. The Learning Specialists' primary job functions were to provide coaching of students to navigate college by assisting each student in selecting a major area of study, exploring career options through internships, teaching organizational and time management strategies, and providing intensive coaching in social interactions and communication skills for each student assigned to the Learning Specialists' caseload. Each Learning Specialist carried a caseload of 10 students each academic semester for whom they developed individualized Wraparound Plans in collaboration with each student's Wraparound Team. These teams were comprised of 3-5 individuals who knew the student and/or could provide guidance, resources, and problem-solving solutions to the challenges/needs identified by the student at each team meeting. Each student's team collaborated to develop individualized Wraparound Plans that identified options for students to enhance their personal and academic growth through a variety of campus- or community-based support services (e.g., wellness center, tutoring, career center, business mentors, Toastmasters). Wraparound meetings were usually held

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

at a convenient location on campus and scheduled around each student's class and tutoring schedules; however, when necessary, meetings were even held at the local vocational rehabilitation offices to ensure that vocational rehabilitation counselors could actively participate as Wraparound Team members as often as possible.

Learning Specialists also provided individualized coaching for students applying for internships and developed internships with local employers in the community and on campus for each CASE student. Wraparound Team meetings were held monthly, and the Learning Specialists followed up with the student weekly to ensure that tasks documented in the Wraparound Plans were being addressed. Learning Specialists also planned social events, skills workshops, and service projects for students to develop friendships, build their social networking skills, and participate in extracurricular activities outside of their academic classes.

Method

Measures

CASE was designed to target five primary outcomes: first-year retention, GPA, graduation, completion of internships, and competitive employment. Social validity surveys were also distributed to students and their families during the program. Approval from the university Internal Review Board (IRB) was obtained for collection of the data from human subjects (students) from the CASE program for this research.

First-year retention was calculated by dividing the number of students who either enrolled in classes during the fall semester following their first year in Project CASE or who graduated during their first year in the program by the total number of students who received services at all during their first year in the program.

GPA was calculated for students during the entire period during which they were enrolled in Project CASE. GPA was based on student transcripts and was calculated only for the semesters during which students received services from the program.

Graduation was recorded if a student either finished a certificate program or Associates Degree at the local community college or completed a bachelor's degree from the four-year university. If a student completed a second degree while in the program, it is noted in the results table, but not included in the calculation for percentage of students who graduated.

Internships were scored as completed once a student completed an internship in an employment experience related to their major or career interests. Internships had to be competitive (i.e., the student had to apply and interview) to count towards completion.

Competitive employment was recorded if a student secured competitive, paid employment at any time during their experience with Project CASE or immediately upon graduating from the program.

Social Validity

A brief social validity survey was distributed on behalf of the funding agency. Students and their family members were asked to complete the survey independently of each other and return anonymous surveys to the project coordinator by mail. The surveys contained four true or false questions, four 4-point Likert scale questions, and one open-ended question.

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

Results

Students Served

Forty-two students received services from Project CASE during the first four years of the program's existence. Students were categorized into cohorts based on the year they entered Project CASE. Cohort 1 (n=13), Cohort 2 (n=11), Cohort 3 (n=7), and Cohort 4 (n=11) entered the program in 2012, 2013, 2014, and 2015 respectively. Students had to present documentation of their disability at the time they applied for the program. Documentation of disability could include a high school IEP, a psychological report, an acceptance letter from the university Student Disabilities office, or a physician's report. Diagnostic labels were collected from the provided documentation, but no additional assessment (e.g., testing at the time of application to CASE) was conducted with students. Table 2 summarizes the demographics of the students participating in Project CASE, as well as their individual outcomes on the five primary dependent variables. (Table 2)

Of the 42 students who received services, 35 were male and 7 were female. Thirty four of the 42 students had a diagnosis on the autism spectrum, with 13 of the 34 students having a comorbid diagnosis such as ADHD, Learning Disability, or depression. Of the 8 students who did not have an ASD diagnosis, 3 were diagnosed with a specific learning disability, 3 with ADHD, and 2 with an intellectual disability.

Primary Outcomes

Table 3 shows the primary outcomes for Project CASE, including the percentage of students who graduated or continued on to a second year in the program, academic performance as measured through GPA, number of students graduating from the program, and number of students completing internships and securing competitive employment. (Table 3)

Social Validity

Respondents to the social validity survey were split almost equally between the students and family members (Table 4). Table 5 summarizes the social validity scores provided by 55 respondents to the survey. Responses were positive for all questions, with those responding reporting that they were treated with respect, felt they had more choice and control, and that they can do more things in the community. All respondents either agreed or strongly agreed that they were satisfied with the activity and that their life (or their student's life) were better as a result of participating. (Tables 4 and 5)

Discussion

In summary, the current paper describes the outcomes of a program designed to support degree-seeking college students in a fully inclusive setting to help them remain in school, excel academically, earn degrees, and build job skills through internships and competitive employment experiences. Project CASE was successful in achieving those outcomes, with the majority of students served during the first four years of the program. CASE's first-year retention rate was 76%, and CASE students maintained a "B" average GPA that was equivalent to all students at the participating institutions.

Both first year retention and GPA results demonstrate that the students were capable academically and supports the conclusion from prior literature that the struggles of students with ASD in college are often related to the non-academic pressures and social situations in college (Barnard-Brak, et al., 2010; Happe, et al., 2006; Hill, 2004; Jackson et al., 2018; Quick et al., 2003; Sarrett, 2018). CASE students, when supported through the wraparound process, more quickly addressed their stressors and challenges, and were thus able to persevere and succeed.

CASE students also completed internships, gained competitive employment, and graduated at a rate higher than national averages reported for individuals with ASD and other disabilities. In prior research, fewer than 25% of individuals with ASD were competitively employed or had completed a degree or certificate in post-secondary education within 6 years of graduating high school (Office of Special Education Programs, 2009; Sanford, et al., 2011; Wagner, et al., 2005). Forty-eight percent of students graduated, and 63% gained competitive employment within 5 years of receiving CASE services.

Several things made CASE unique relative to other support programs in the literature. First, CASE targeted fully included, degree seeking students who met admission requirements and were fully accepted as matriculating students at their institutions. These students brought unique needs to their experience for which prior research offers few validated interventions. Students were higher functioning and often reluctant to self-identify their disability, which made the design and delivery of supports more difficult.

Second, CASE philosophy was strengths-based rather than deficit-driven. Also, the student guided the process. As a result, the CASE team was able to help the students learn how to take responsibility for their behavior, their decisions, and their circumstances. The focus on developing self-advocacy and self-management skills reflected a growing recognition that as students begin to transition, they need to learn how to have more in their life. By focusing on strengths and self-identified priorities, this model explicitly turned away from a treatment approach characterized by assessment to identify a skill deficit, followed by an intervening to reduce challenging behavior or teach a skill to address the deficit. Students set their own support goals and priorities, and the CASE team felt the ethic of self-determination was paramount to the model empowering students -who often reported yearning to break free from micromanagement and being told what to do.

Third, CASE extended the literature on the wraparound model to an adult, self-managed population of college students. Prior extensions have included support for families with children with mental illness (Burchard, et al., 2002; Goldman, 1991; Walker, et al., 2008), individuals with developmental and intellectual disabilities (Eber & Nelson, 1997; Eber, et al., 1996; Suter & Bruns, 2009; Lechtenberger et al., 2012), and the juvenile justice system (Kamradt 2000; Kerbs, et al., 2004), but this project represents the first known use of the wraparound model with an adult, college population of individuals with ASD and other disabilities.

Through the four years of running the project summarized here, the team learned several lessons. First, effective collaboration with other campus and community service providers and offices was vital to ensuring students had access to effective help on their wraparound teams and in their school environments. Learning Specialists had to become experts in identifying all available campus and community resources in order to help each student select the most appropriate wraparound team members. The more collaborative relationships developed (with advisors, faculty, housing staff, student health and wellness providers, campus police, etc.), the more effectively could students self-advocate and navigate the requirements for accessing supports and services. The longer CASE ran on each campus, the easier it became to refer a student to a service provider or invite one on to a wraparound team and have that referral or invitation accepted. Anyone seeking to replicate a model like CASE should prioritize learning their campus and wider community services and cultivate positive relationships with the professionals there. This ensures that as the students learn to self-advocate and navigate their college experience, the environment will be as positive and supportive as possible.

Second, while desirable that students learn to function in positive and supportive environments, it is also important that students learn to persevere, and problem solve in situations where others are not supportive or understanding. Not every professor will be willing to implement accommodations. Not every advisor or staff member will be patient or understanding of communication difficulties. Not every potential friend or dating partner will gently rebuff an advance. Not every roommate cares to take out the trash or follow a consistent schedule. An important element of teaching college students to navigate their experience is to plan for all learned and practiced skills to generalize not only to supportive environments, but also surprising or negative ones. For example, many CASE students needed help learning how to approach and talk to professors. Learning Specialists found that it was not enough to practice how to talk to a happy, supportive professor, but also to role play how to approach a temperamental, uncooperative professor. Often, the situations the students needed help with involved interacting with people who had no training in disability characteristics or accommodations, and their skills had to be sufficiently polished to allow success in a less-than-ideal climate. As the collaboration mentioned above grew across the campuses served by CASE, those examples occurred less, but they remained a common and often frustrating event.

Third, as the project developed, CASE staff learned that it was important to gather as much information as possible about each student prior to their joining the programming. During the initial two years of the program, students were not required to provide information beyond diagnostic information and their disability accommodations through campus disability services. Beginning with Cohort 3, CASE staff asked for any recent psychological screening and copies of high school IEPs and school records in order to develop a more nuanced picture of the needs of each student. It helped to predict some areas of struggle. For example, if CASE staff knew that a student had already been treated for depression in high school, more focus was placed on educating the student about mental health services on campus and monitoring their behavior for early symptoms.

Fourth, CASE staff found it increasingly important to also implement training and support for parents. A one-day CASE Orientation for families was offered concurrently with student orientation, during which expectations and policies were explained to parents. It was often as difficult for families to accept the changed landscape of the college services environment as it was for the students. Information was provided to families on roles and expectations for CASE Learning Specialists, students, and family members in order to minimize

concern and clarify roles within the program. This helped to alleviate many concerns families voiced during CASE Orientation.

Finally, students prioritized wrap goals and supports that helped them establish both platonic and romantic peer relationships. While not surprising, it is an important dimension of the CASE model that students were allowed to identify and work towards social and personal goals as well as academic goals. It also supports prior literature in the area showing that students who do not feel connected are at increased risk of failure and drop-out (e.g., Barnard-Brak et al., 2010; Jackson et al., 2018; Kuder & Accardo, 2018).

While the current evaluation of CASE demonstrates positive outcomes for the students served, there are a number of limitations that make drawing specific conclusions and making generalization of the findings more difficult. First, the current study did not conduct a component analysis of the various supports provided. An important next step in evaluating programs such as CASE will be to further explore which elements of the CASE model were responsible for the outcomes observed, and to further refine procedures validated with younger or different populations with college students.

Second, there was no control group in the current study. Future research could more accurately gauge the impact of the CASE model by employing control groups of both neurotypical college students and also college students with ASD attending the same university, but not receiving the CASE model. If possible, researchers could also compare outcomes for students with ASD attending college who did and did not register for support from disability services as separate groups.

Third, the participants self-selected to participate in CASE, and it may be that students who seek out and take advantage of available services are more likely to graduate and gain employment than other students with ASD attending college. While this may account for some of the effect, the academic and employment outcomes achieved by CASE students are so much higher than the averages seen in prior literature that it is unlikely to be solely responsible for the observed effects.

Finally, we did not measure the impact of CASE services on the core or related symptoms of ASD in our students. We did not initially gather baseline measures of ASD symptomology, comorbid conditions (e.g., anxiety or depression index scores), or other standardized measures of mood or functioning. Such measures might indicate a longitudinal effect for models such as CASE in the future if it can be shown that continued supports lower the manifestation of ASD, depression, or anxiety symptomology in students. One potential way to see the impact of CASE services on ASD and comorbid symptomology would be to examine Wraparound Plans in detail to see which services students identified as a need in their monthly meetings.

In conclusion, this manuscript marks one of the first large-scale, empirical evaluations of a comprehensive support program for young adults with ASD and other developmental disabilities attending college. It is an important first step in expanding both the empirical literature on college supports and on expanding knowledge of programs designed specifically for fully included degree-seeking students with ASD and other developmental disabilities.

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

References

Alpern, C. S., & Zager, D. (2007). Addressing communication needs of young adults with autism in a college-based inclusion program. *Education and Training in Developmental Disabilities, 42*(4), 428-436.

Ashbaugh, K., Koegel, R. L., & Koegel, L. K. (2017). Increasing social integration for college students with autism spectrum disorder. *Behavioral Development Bulletin*, *22*(1), 183-196. http://dx.doi.org/10.1037/bdb0000057183

Baio, J., Wiggins, L., Christensen, D. L., Maenner, M. J., Daniels, J., Warren, Z., Kurzius-Spencer, M., Zahorodny, W., Rosenberg, C.R., White, T., Durkin, M.S., Imm, P., Nikolaou, L., Yeargin-Allsopp, M., Lee, L., Harrington, R., Lopez, M., Fitzgerald, R. T., Hewitt, A., … Dowling, N. F. (2018). Prevalence of autism spectrum disorder among children aged 8 years – Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2014. *Morbidity and Moral Weekly Report (MMWR) Surveillance Summaries*, *67*(6), 1-23. http://dx.doi.org/10.15585/mmwr.ss6706a1

Barnard, L., Lan, W. Y., & Lechtenberger, D. (2008, March). *How student attitudes toward requesting accommodations are related to academic achievement in postsecondary education* [Paper presentation]. American Educational Research Association (AERA), New York.

Barnard-Brak, L., Lechtenberger, D. A., & Lan, W. Y. (2010). Accommodation strategies for college students with disabilities. *The Qualitative Report, 35*(2), 411-429. http://www.nova.edu/ssss/QR/QR15-2/barnard-brak.pdf

Barnard-Brak, L., Sulak, T.N., Tate, A., & Lechtenberger, D. A. (2010). Measuring attitudes toward requesting accommodations: A national multi-institutional study. *Assessment for Effective Intervention, 35*(3), 141-147. http://dx.doi.org/10.1177/1534508409358900

Bruns, E. J., Walker, J. S., & The National Wraparound Initiative Advisory Group. (2004). Ten principles of the wraparound process. In E. J. Bruns & J. S. Walker (Eds.), *The resource guide to wraparound*. National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health. https://nwi.pdx.edu/NWI-book/Chapters/Bruns-2.1-(10-principles-of-wrap).pdf

Burchard, J., Bruns, E. J., & Burhard, S. N. (2002). The wraparound approach. In B. Burns & K. Hoagwood (Eds.), *Community treatment for youth: Evidence-based interventions for severe emotional and behavioral disorders* (pp. 69-90). Oxford University Press.

Camarena, P. M., & Sarigiani, P. A. (2009). Postsecondary educational aspirations of high-functioning adolescents with autism spectrum disorders and their parents. *Focus on Autism and Other Developmental Disabilities, 24*, 115-128. http://doi.org/10.1177/1088357609332675

Centers for Disease Control and Prevention. (2014). *Data and statistics.* http://www.cdc.gov/ncbddd/autism/data.html

Centers for Disease Control and Prevention. (2012). *Prevalence of autism spectrum disorders– Autism and developmental disabilities monitoring network, United States, 2008*. (Morbidity and Mortal Weekly Report, Vol. 61, No.3). Government Printing Office. http://www.cdc.gov/mmwr/volumes/69/ss/ss6904a1.htm

Christensen, D. L., Baio, J., Braun K. V., Bilder, D., Charles, J., Constantino, J. N., Daniels, J., Durkin, M.S., Fitzgerald, R.T., Kurzius-Spencer, M., Lee, L., Pettygrove, S., Robinson, C., Schulz, E., Wells, C., Wingate, M.S., Zahorodny, W., Yeargin-Allsopp, M., & Centers for Disease Prevention (2016). Prevalence and characteristics of autism spectrum disorder among children aged 8 years — Autism and developmental disabilities monitoring network, 11 sites, United States, 2012. *Morbidity and Mortal Weekly Report (MMWR) Surveillance Summary, 65*(3), 1-23. http://dx.doi.org/10.15585/mmwr.ss6503a1

Chiang, H. M., Cheung, Y. K., Hickson, L., Xiang, R., & Tsai, L.Y. (2012). Predictive factors of participation in postsecondary education for high school leavers with autism. *Journal of Autism and Developmental Disorders, 42*, 685-696.http://dx.doi.org/10.1007/s10803-011-1297-7

Eber, L., & Nelson, C. (1997). School-based wraparound planning: Integrating services for students with emotional and behavioral needs. *American Journal of Orthopsychiatry, 67*(3), 385-395.

Eber, L., Osuch, R., & Redditt, C.A. (1996). School-based applications of the wraparound process: Early results on service provision and student outcomes. *Journal of Child and Family Studies, 5*(1), 83-99.

Elias, R., & White, S. W. (2018). Autism goes to college: Understanding the needs of a student population on the rise. *Journal of Autism and Developmental Disorders*, *48*(3), 732-746. http://dx.doi.org/10.1007/s10803-017-3075-7

Fink, S.B. & Capparell, S. (2013). *The Birkman method: Your personality at work*. John Wiley & Sons, Inc.

Fries, D., Carney, K., Blackman-Urteaga, L., & Savas, S. (2012). Wraparound services: Infusion into secondary schools as a dropout prevention strategy. *NASSP Bulletin, 96*(2), 119-136. http://dx.doi.org/10.1177/0192636512443282

Gelbar, N. W., Smith, I., & Reichow, B. (2014). Systematic review of articles describing experience and supports of individuals with autism enrolled in college and university programs. *Journal of Autism and Developmental Disorders 44*(10), 2593-2601. http://dx.doi.org/10.1007/s10803-014-2135-5

Gmelch, S. B. (1998). *Gender on campus: Issues for college women.* Rutgers University Press.

Goldman, S. K. (1999). The Conceptual Framework for Wraparound. In B. J. Burns & K. Goldman (Eds.), *Systems of care: Promising practices in children's mental health, 1998 series, Vol. IV: Promising practices in wraparound for children with severe emotional disorders and their families* (27-34). Center for Effective Collaboration and Practice.

Greenbaum, B., Graham, S., & Scales, W. (1995). Adults with learning disabilities: Educational and social experiences during college. *Exceptional Children, 61*(5), 460-472.

Haber, M., Cook, J., & Kilmer, R. (2012). Perceptions of family environment and wraparound processes: Associations with age and implications for serving transitioning youth in systems of care. *American Journal of Community Psychology, 49*, 454-466. http://dx.doi.org/10.1007/s10464-012-9490-1

Happe, F., Booth, R., Charlton, R., & Hughes, C. (2006). Executive function deficits in autism spectrum disorders and attention-deficit/hyperactivity disorder: Examining profiles across domains and ages. *Brain and Cognition, 61*, 25-39. http://dx.doi.org/10.1016/j.bandc.2006.03.004

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

Hart, D., Grigal, M., & Weir, C. (2010). Expanding the paradigm: Postsecondary education options for individuals with autism spectrum disorder and intellectual disabilities. *Focus on Autism and Other Developmental Disabilities*, *25*(3), 134–150. http://dx.doi.org/10.1177/1088357610373759

Hartman, L.A. (1993). The disabled employee and reasonable accommodation under the Minnesota Human Rights Act: Where does absenteeism attributable to the disability fit into the law? *William Mitchell Law Review, 19*, 905-929.

Hill, J. L. (1996). Speaking out: Perceptions of students with disabilities regarding adequacy of services and willingness of faculty to make accommodations. *Journal of Postsecondary Education & Disability, 12*(1), 22-43.

Hill, E. L. (2004). Evaluating the theory of executive dysfunction in autism. *Developmental Review, 24*, 189-233. http://dx.doi.org/10.1016/j.dr.2004.01.001

Jackson, L. G., Duffy, M. L., Brady, M. P., & McCormick, J. (2018). Effects of learning strategy training on the writing performance of college students with asperger's syndrome. *Journal of Autism and Developmental Disorders*, *48*(3), 708-721. http://dx.doi.org/10.1007/s10803-017-3170-9

Jackson, S. L., Hart, L., Brown, J. T., & Volkmar, F. R. (2018). Brief report: Self-reported academic, social, and mental health experiences of post-secondary students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *48*(3), 643-650. http://dx.doi.org/10.1007/s10803-017-3315-x

Jackson, S. L., Hart, L., & Volkmar, F. R. (2018). Preface: Special issue – College experiences for students with autism spectrum disorder. *Journal of Autism and Developmental Disabilities, 48*(3), 639-642. http://dx.doi.org/10.1007/s10803-018-3463-7

Janiga, S. J., & Costenbader, V. (2002). The transition from high school to postsecondary education for students with learning disabilities: A survey of college service coordinators. *Journal of Learning Disabilities, 35*(5), 462-468. http://dx.doi.org/10.1177/00222194020350050601

Kamradt, B. (2000). Wraparound Milwaukee: Aiding youth with mental health needs. *Juvenile Justice, 7*(1), 14-23.

Kerbs, J., Gaylor, R., Pullmann, M., & Roe, P. (2004). Wraparound and juvenile justice: Making a connection that works. *Focal Point: A National Bulletin on Family Support and Children's Mental Health, 18*(1), 19–22.

Lechtenberger, D. A., Barnard-Brak, L., Sokolosky, S. A., & McCrary, D. (2012). Wraparound planning in postsecondary settings for students with disabilities. *College Student Journal, 46(4),* 856-866.

Lehmann, J. P., Davies, T. G., & Laurin, K. M. (2000). Listening to student voices about postsecondary education. *Teaching Exceptional Children, 32*(5), 60-65. http://dx.doi.org/10.1177/004005990003200508

Lucas, R., & James, A. I. (2018). An evaluation of specialist mentoring for university students with autism spectrum disorders and mental health conditions. *Journal of Autism and Developmental Disorders*, *48*(3), 694-707. http://dx.doi.org/10.1007/s10803-017-3303-1

Lynch, R.T, & Gussel, L. (1996). Disclosure and self-advocacy regarding disability-related needs: Strategies to maximize integration in postsecondary education. *Journal of Counseling & Development, 74*, 352-357.

Migliore, A., Timmons, J., Butterworth, J., & Lugas, J. (2012). Predictors of employment and postsecondary education of youth with autism. *Rehabilitation Counseling Bulletin, 55*(3), 176-184. http://dx.doi.org/10.1177/0034355212438943

Moore, T., & Carey, L. (2005), Friendship formation in adults with learning disabilities: Peer-mediated approaches to social skills development. *British Journal of Learning Disabilities, 33*, 23-26. http://dx.doi.org/10.1111/j.1468-3156.2004.00292.x

National Wraparound Initiative Advisory Group. (n.d.). *Wraparound basics or what is wraparound: An introduction.* http://nwi.pdx.edu/wraparound-basics/#whatisWraparound

Office of Special Education Programs. (2009). *The 31st Annual Reports to Congress on the Individuals with Disabilities Education Act (IDEA)*. U.S. Department of Education.

Office of the Surgeon General (US), National Center for Injury Prevention and Control (US), National Institute of Mental Health (US), and Center for Mental Health Services (US). (2001). *Youth violence: A report of the surgeon general*. Rockville (MD): Office of the Surgeon General (US). http://www.ncbi.nlm.nih.gov/books/NBK44294/

Oser, C., Knudsen, H., Stanton-Tindall, M. S., & Leukefeld, C. (2009). The adoption of wraparound services among substance abuse treatment organization's serving criminal offenders: The role of a woman-specific program. *Drug and Alcohol Dependence, 103*(1), 82-90. http://dx.doi.org/10.1016/j.drugalcdep.2008.12.008

Pringle, J. L., Edmondston, L. A., Holland, C. L., Kirisci, L., Emptage, N. P., Balavage, V. K., Ford, W. E., Hubbard, R. L., Jungblut, E., & Herrell, J. M. (2002). The role of wrap around services in retention and outcome in substance abuse treatment: Findings from the wrap around services impact study. *Addictive Disorders & Their Treatment, 1*, 109-118.

Quick, D., Lehmann, J., & Deniston, T. (2003). Opening doors for students with disabilities on community college campuses: What have we learned? What do we still need to know? *Community College Journal of Research & Practice, 27*, 815-827. http://dx.doi.org/10.1080/713838274

Quick, H., Coldiron, J. S., & Bruns, E. (2014). *A comprehensive review of published wraparound literature, 1988-2012.* National Wraparound Initiative.

Rao, S. (2004). Faculty attitudes and students with disabilities in higher education: A literature review. *College Student Journal, 38*(4), 191-198.

U. S. Public Health Service. (2001). *Report of the Surgeon General's Conference on Children's Mental Health: A National Action Agenda*. http://www.ncbi.nlm.nih.gov/books/NBK44233/

Roux, A. M., Shattuck, P. T., Cooper, B. P., Anderson, K. A., Wagner, M., & Narendorf, S. C. (2013) Postsecondary employment experiences among young adults with an autism spectrum disorder. *Journal of the American Academy of Child Adolescent Psychiatry, 52*(9), 931-9.

Roux, A. M., Shattuck, P. T., Rast, J. E., Rava, J. A., & Anderson, K. A. (2015). *National Autism Indicators Report: Transition into Young Adulthood*. Life Course Outcomes Research Program, A.J. Drexel Autism Institute, Drexel University.

Sanford, C., Newman, L., Wagner, M., Cameto, R., Knokey, A. M., & Shaver, D. (2011). The Post-High School Outcomes of Young Adults with Disabilities up to 6 Years after High School: Key Findings from the National Longitudinal Transition Study-2 (NLTS2). NCSER 2011-3004. *National Center for Special Education Research*.

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

Sarrett, J. C. (2018). Autism and accommodations in higher education: Insights from the autism community. *Journal of Autism and Developmental Disorders*, *48*(3), 679-693. http://dx.doi.org/10.1007/s10803-017-3353-4

Stodden, R. A., & Mruzek, D. W. (2010). An introduction to postsecondary education and employment of persons with autism and developmental disabilities. *Focus on Autism and Other Developmental Disabilities, 25*(3), 131-133. http://dx.doi.org/10.1177/1088357610371637

Suter, J. C., & Bruns, E. J. (2009). Effectiveness of the wraparound process for children with emotional and behavioural disorders: A meta-analysis. *Clinical Child and Family Psychology Review, 12*, 336-351. http://dx.doi.org/10.1007/s10567-009-0059-y

Swartz, S. L., Prevatt, F., & Proctor, B. E. (2005). A coaching intervention for college students with attention deficit/hyperactivity disorder. *Psychology in the School, 42*, 647-656. http://dx.doi.org/10.1002/pits.20101

VanDenBerg, J., Burns, E., & Burchard, J. (2003). History of the wraparound process. *Focal Point: A National Bulletin on Family Support and Children's Mental Health: Quality and Fidelity in Wraparound, 17*(2), 4-7.

VanBergeijk, E., Klin, A., & Volkmar, F. (2008). Supporting more able students on the autism spectrum: College and beyond. *Journal of Autism and Developmental Disorders, 38*, 1359-1370. http://dx.doi.org/10.1007/s10803-007-0524-8

Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After high school: A first look at the postschool experiences of youth with disabilities*. Office of Special Education Programs, U.S. Department of Education. http://files.eric.ed.gov/fulltext/ED494935.pdf

Walker, J. S., Bruns, E. J., VanDenBerg, J. D., Rast, J., Osher, T. W., Miles, P., Adams, J., & National Wraparound Initiative Advisory Group (2004). *Phases and activities of the wraparound process*. (1-16). National Wraparound Initiative, Research and Training Center on Family Support and Children's Mental Health, Portland State University. http://nwi.pdx.edu/pdf/PhaseActivWAProcess.pdf

Walker, J. S., Bruns, E. J., & National Wraparound Initiative Advisory Group. (2004). Walker, J. S., & Matarese, M. (2011). Using a theory of change to drive human resource development for wraparound. *Journal of Child and Family Studies, 20*(6), 791-803. http://dx.doi.org/10.1007/s10826-011-9532-6

Weiss, A. L., & Rohland, P. (2015). Implementing a communication coaching program for students with autism spectrum disorders in postsecondary education. *Topics in Language Disorders*, *35*(4), 345-361.

Wilson, K., Getzel, E., & Brown, T. (2000). Enhancing the post-secondary campus climate for students with disabilities. *Journal of Vocational Rehabilitation, 14*, 37-50.

Zager, D., & Alpern, C. (2010). College based inclusion programming for transition-age students with autism. *Focus on Autism and Other Developmental Disabilities*, *25*(3), 151–157. http://dx.doi.org/10.1177/1088357610371331

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

Table 1

Comparison of Traditional and CASE Wraparound Process Models

Principle	Traditional Model	CASE Model
1. Family voice and choice	Family and youth/child perspectives are intentionally elicited and prioritized during all phases of the wraparound process.	Student voice and choice drive the wraparound process. Planning is grounded in the students' perspectives, and the wraparound team works with the student to provided options and choices so the plans will reflect the student's prioritized their needs and values.
2. Team based	Consists of individuals agreed upon by the family and committed to the family through informal, formal, community support and service relationships.	Consists of a minimum of 3-5 individuals who can provide resources and supports for the student are identified and agreed upon by the student with support from the team, including the CASE Learning Specialist. Family members may be included on a case by case basis in the event of crisis with the student's permission.
3. Natural supports	Team actively seeks out and encourages the full participation of team members drawn from family members' networks of interpersonal and community relationships.	Team members are typically selected from the natural supports the student has or develops on campus and in the community where the campus is located. The team may also incorporate supports from the student's home community, especially as the student prepares to graduate.
4. Collaboration	Team members work cooperatively and share responsibility for developing, implementing, monitoring, and evaluating a single wraparound plan.	Team members collaborate to share in developing, implementing, monitoring, and evaluating each individualized plan with the student on a monthly basis.
5. Community based	Team implements service & support strategies that take place in the most inclusive and least restrictive settings	Teams identify the most inclusive, responsive, and least restrictive services and strategies possible to support a student's success in pursuing their higher

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

Principle	Traditional Model	CASE Model
	possible; safely promote child and family integration into home and community live.	education goals to help them become fully included in the campus community.
6. Culturally competent	Process demonstrates respect for and builds on the values, preferences, beliefs, culture, and identify of the child/youth and family, and their community.	Process respects and builds on the values, preferences, beliefs, culture, and identity of each student as well as their community.
7. Individualized	Team develops and implements a customized set of strategies, supports, and services.	The student's goals are identified in the wraparound plan as team members work together to develop and implement a set of individualized strategies, supports, and services to meet the student's prioritized needs.
8. Strengths based	Plan will identify, build on, and enhance the capabilities, knowledge, skills, and assets of the child and family, their community, and other team members.	Student strengths are identified using the Birkman Method and by the student. Builds on and enhances the capabilities, knowledge, skills, and strengths of the student, their family, and their community.
9. Persistence	The team persists in working towards the goals included in the wraparound plan until the team reaches agreement that a formal wraparound process is no longer required.	The team continues working toward meeting the needs of the student to support them in achieving the goals they have set in their wraparound plan until a formal wraparound process is no longer required.
10. Outcome based	The team ties the goals and strategies of the wraparound plan to observable or measurable indicators of success, monitors progress in terms of these indicators, and revises the plan accordingly.	The team ties the goals and strategies of the wraparound plan to observable or measurable indicators of success, monitors progress in terms of those indicators, and revises the plan as needed.

Note. Traditional model is adapted from "*Ten Principles of the Wraparound Process," by Bruns, Walker, & the National Wraparound Initiative Advisory Group*. (2004). National Wraparound Initiative, Research and Training Center for Family Support and Children's Mental Health.

Table 2
Student Diagnostic Information

	Students in Project CASE (*n*=42)			
	Students with ASD (*n* = 34)		Another disability only (*n*=8)	
	Without comorbidity (*n*=21)	With comorbidity (*n*=13)		
Diagnosis of Other Disabilities		ADHD 3	ADHD	3
		ADHD & Depression 1	Dyslexia	3
		Diabetes 1	Intellectual Developmental Disabilities	2
		Dyslexia 1		
		Bi-Polar 1		
		Tourette's 1		
		Learning Disability 1		
		Non Verbal Learning Disability 1		
		Anxiety 5		
		Speech 2		

Table 3
CASE Student Outcomes (n=42)

First Year Retention	76.19% • 32 of 42 students graduated or continued into second year of their program
Average GPA in Project CASE (*n*=37)	2.997
Graduation	20 graduated • 3 went to graduate school (2 have already earned graduate degrees) • 3 transferred from Community College (2-year) to University (4-year)
Internship	27 have completed internships
Employment	25 have been competitively employed

Running Head: STRENGTHS-BASED PROGRAM FOR COLLEGE STUDENTS

Table 4

Category of Respondents (n=55)

Individual with a Disability	Family Member	Other
22 (40.00%)	29 (52.73%)	4 (7.27%)

Table 5

Social Validity Survey Scores (n=55)

	Item	Yes	No	No Response
Q1	I was treated with respect during this activity.	55 (100%)	0 (0%)	0 (0%)
Q2	I (or my family member) have more choice and control as a result of this activity.	53 (96.36%)	1 (1.82%)	1 (1.82%)
Q3	I (or my family member) can do more things in my community as a result of this activity.	52 (94.55%)	2 (3.64%)	1 (1.82%)

	Item	Strongly Agree 4	Agree 3	Disagree 2	Strongly Disagree 1
Q4	I am satisfied with this activity.	41 (74.55%)	14 (25.45%)	0 (0%)	0 (0%)
Q5	My (or my family member's) life is better because of this activity.	41 (74.55%)	14 (25.45%)	0 (0%)	0 (0%)