

Article

Twice Exceptional Students with Autism: Self-Perceptions of Talents and Disabilities

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Abstract

Students with autism spectrum disorder (ASD) represent a growing population in U.S. higher education, including those with academic talents and gifts. Our research team has studied these academically talented students with ASD, along with their teachers, parents, counselors, and disability service providers at highly competitive colleges and universities in the United States. Using qualitative methodology and thematic analysis, this study examined factors and experiences relating to how self-perceptions of identification as twice exceptional contributed to academic success among 40 students with ASD attending highly competitive colleges. A focus of this research was the role that participants' perception of their talents, disabilities, and learning experiences played in their academic success. Findings indicate that slightly under half of the participants believed they had a clear understanding of their academic talents and their ASD during college. Their self-perceptions of ability varied over time and based on various academic and social challenges, but most believed an understanding of their twice-exceptionality was necessary for their academic success. Over time, particularly during their college years, participants learned to better understand their talents and disabilities and to identify which strength-based experiences helped to shape their success. Students' positive experiences, such as success in advanced, accelerated, and interest-based classes as well as enjoyable extracurricular activities, positively enhanced their self-perceptions of academic abilities and promoted confidence in future educational and career paths.

Keywords: autism spectrum disorder (ASD); gifted and talented students; twice exceptional; self-perception; twice exceptional; strength-based approach



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1. Introduction

At the start of this century, approximately 11% of American college students reported having disabilities. By 2015–2016, this increased to 19% ([United States Department of Education, 2018](#)). Students with Autism Spectrum Disorder (ASD) comprise a growing segment of this population. According to the National Longitudinal Transition Study-2 (NLTS2) ([L. Newman et al., 2011](#)), 44% of students with ASD who received special education in high school enrolled in postsecondary institutions within 8 years of graduation, primarily in 2-year schools (32% versus 17% in 4-year schools). However, only 63% disclosed their disability to their college, 36% used academic support services, and 35% received accommodations. Research by [L. A. Newman et al. \(2021\)](#) demonstrated that accessing academic supports directly contributed to retention and graduation rates. Only 38% of college-enrolled students with ASD graduated within 8 years of leaving high school ([L. Newman](#)

[et al., 2011](#)). This study examined factors and experiences relating to the self-perceptions of twice exceptional students attending highly competitive colleges.

Despite legal mandates for transition planning, the National Autism Indicators Report ([Roux et al., 2015](#)) found that only 58% of students with ASD had transition plans, and one-third wished for more involvement in their planning. Students with ASD were least likely to attend their IEP meetings, limiting the development of crucial self-advocacy skills. Students with higher conversational skills and college-educated parents were more likely to attend college (44% versus 14%). Additionally, between one-quarter and one-third took medications for depression, anxiety, or mood stabilization. Combined with deficits in communication and social-pragmatic skills, students with ASD face unique challenges in transitioning to and remaining in college ([L. A. Newman et al., 2016](#)). Limited research exists on factors helping academically talented students with ASD succeed in college.

Although Temple Grandin and other eminent individuals have brought attention to twice exceptional students, comprehensive research on high-functioning students with ASD is minimal. Our research team recently conducted studies on academically talented students with ASD to identify student, familial, and school-based success factors, building on foundational work by [Gelbar et al. \(2015\)](#) and [Madaus et al. \(2022b\)](#). We interviewed 40 high-functioning students with autism who were juniors and seniors at highly competitive U.S. colleges, along with their parents and some high school teachers or college advisors. Our focus was on identifying strength-based practices, learning strategies, and social-emotional supports needed for this twice exceptional ASD (2eASD) population to succeed in competitive environments. This is an understudied area and represents a gap in the extent of research in this area.

2. Background

Research demonstrates that individuals with ASD are significantly less likely to attend postsecondary education than those with other disabilities or the general population ([L. Newman et al., 2011](#)). Adults with ASD also report substantial social and mental health challenges, including depression, anxiety, and loneliness ([Billstedt et al., 2005](#); [Howlin et al., 2004](#); [Maskey et al., 2013](#)). These challenges, combined with social skill deficits, create significant barriers to education and employment ([Foley-Nicpon et al., 2012, 2013](#); [Wehman et al., 2014](#)). Previous research indicates that loneliness, anxiety, and depression negatively affect college students with ASD ([Gelbar et al., 2015](#)), a trend that continued with our participants.

Many educators, psychologists, and families struggle to support individuals with ASD as they consider college and careers. The lifetime cost of supporting an adult with ASD in the United States ranges from \$1.4 million to \$2.4 million, including medical and non-medical costs plus productivity losses ([Buescher et al., 2014](#)). Helping more students with ASD, especially those with academic talents, complete college could reduce these costs while enabling them to find appropriately challenging careers, with high-potential individuals contributing even more to the workforce.

Understanding the experiences of twice exceptional students with ASD can provide some directions for success. Many college students with learning disabilities fail to disclose their needs. Some are identified late because their disabilities mask their intelligence and vice versa ([S. M. Baum et al., 2001](#); [Reis et al., 1997](#)). Some qualified students refuse to participate in support programs. Those who succeed typically learn effective study skills, access emotional and social support, and invest necessary time. However, success is dependent on the type of disability, parental support, available school and college assistance ([Reis et al., 1997](#)), and supportive faculty.

Our research has explored the identification of giftedness and ASD among academically talented students successful in high school and college. While the number of students with disabilities, especially ASD, attending college is increasing, graduation rates remain low. Our research was focused on understanding how to help this population succeed in college and to examine whether strength-based approaches that address both talents and deficits can contribute to academic success (S. M. Baum et al., 2014; S. Baum et al., 2017). We sought to understand how educators can help develop students' interests, talents, and strengths through accelerated classes, project-based learning, interest-based extracurriculars, and other methods.

Identifying students with both academic talents and ASD is challenging (Reis et al., 1997, 2014), as ASD is characterized by communication and socialization deficits (American Psychiatric Association, 2013). Individuals with 2eASD often exhibit behaviors present in both conditions—intensity, sensitivities, relationship challenges, and strong focus on interests—leading to misidentification of either talents or ASD. These students' strengths typically receive less attention than their deficits, raising questions about their identity development (S. M. Baum et al., 2014; Reis et al., 2014, 1997). Identity describes a student's sense of being recognized as a "certain kind of person" in a particular context (Gee, 2000) and being identified as an academically successful student can result in positive outcomes for students. During their years in school, twice exceptional students with ASD may come to believe they have multiple identities. For example, many adults with ASD report significant social and mental health challenges, including depression, anxiety, and pervasive loneliness (Billstedt et al., 2005; Howlin et al., 2004), which can negatively affect their success in college and employment. Twice exceptional students with ASD and talents might, for example, achieve success in specific content areas, athletics, or the arts. Students who have a strong identity in one content area are often recognized as being highly competent in that area.

Young people with ASD engage in identity construction within social contexts, often identifying within cultural norms and social expectations, and sometimes distancing themselves from the label of autistic (Baines, 2012; Ringland et al., 2016), suggesting the complex ways that an ASD diagnosis can shape identity (Mogensen & Mason, 2015). For example, some young women with ASD conceal this label for their social survival, generally disclosing when they are motivated by the need for authentic relationships or necessary accommodations in school or work, leading to their understanding of a more authentic self (Morgan, 2023).

Being identified as twice exceptional is a duality that can create a unique and often paradoxical self-identity influenced by both high potential/talent and/or their disability. Too often, the talents of students identified as twice exceptional are masked by their disabilities, and their disabilities receive most attention from their parents and teachers (Reis et al., 2014). Failure to identify students with 2eASD can result in increased challenges with social interactions, communications and behavioral challenges (Rubenstein et al., 2015). In general, students identified as twice exceptional may face distinct challenges in forming a self-identity, often feeling caught between two worlds of talent and disabilities, often feeling smart in one setting and disabled in another (Assouline et al., 2006; Atmaca & Baloglu, 2022; S. M. Baum et al., 2014; Küry & Fischer, 2025; Reis et al., 1997; Rizzo et al., 2025; Simonoff et al., 2008). Drawing on this body of research, this study focused on the self-perceptions of students with 2eASD and the influence of better understanding academic abilities and gaining increased confidence in academically challenging environments on academic success. Self-perception in this population is conceived as believing oneself to be a successful, academically capable student who can achieve at high levels in challenging academic settings. As self-identity in this group can shift over time in certain situations, having a core positive self-perception can positively influence students, enabling them to

focus on certain actions, such as feeling confident enough to enroll in advanced classes, disclosing their identity as ASD, and seeking help from disability services offices.

3. Recent Research About 2eASD Students Leading to This Study

Recent research has examined the educational, social, and personal experiences contributing to the academic success of twice exceptional students in secondary and post-secondary settings. This work employed a multi-stakeholder approach, incorporating perspectives from students, parents, support personnel, and educators. Specifically, the research included in-depth interviews with 40 academically talented college students identified as 2eASD regarding factors contributing to their success in high school and college (Madaus et al., 2022a, 2022b; Reis et al., 2022). Additionally, a survey of 147 college accessibility personnel was conducted to identify their perceptions of factors contributing to the academic success of college students identified as 2eASD (Gelbar et al., 2022). The research also included interviews with a sample of high school teachers and school counselors who had worked with students identified as 2eASD to identify best practices with this population (Austermann et al., 2024; Renzulli & Austermann, 2025).

This integrated body of research focused on factors contributing to both academic and social-emotional success among students with 2eASD. Our research identified several important challenges facing this population, including difficulties establishing and maintaining peer relationships, problems developing rapport with teachers, broader social struggles, complications with self-advocacy, difficulties navigating educational transitions, and mental health challenges, particularly anxiety. In this article, we further probe the ways that college students identified as 2eASD developed strong and positive self-perceptions of their academic abilities and how these self-perceptions contributed to their academic success in competitive universities and colleges. Educators can, however, support and develop positive self-perceptions and beliefs in self in this population, as suggested by this new research.

Using qualitative methods with 40 participants, all identified as 2eASD, we identified themes related to self-perception of twice-exceptionality related to healthy social and emotional development in students attending highly competitive colleges (Reis et al., 2022). We also focused on academic experiences that educators can implement to engage and challenge students with 2eASD, focusing on alleviating their anxiety and developing healthy social and emotional strategies that enable them to succeed both academically and in life.

3.1. Sample

Our sample of 40 participants was recruited from highly competitive universities across the United States, focusing on Disability Services Offices, as well as Honors Programs. We required participants to have been formally identified as both with ASD as well as academic talents during their elementary and high school years. All participants met both these criteria due to extensive documentation by these Disability Service Offices. All participants were formally diagnosed with ASD, qualified and received services from these centers. Current research suggests that between 3 and 25% of those identified with ASD fall within the average to above average range cognitively and function independently in their communities, although some may experience anxiety and attention issues (Fein et al., 2013; Helt et al., 2008). Participants were also identified as having academic talents by their aptitude scores, formal identification, and their previous participation in gifted and enrichment programs. The participants in this study were primarily male, with 27 (68%) stating they identified as male, nine (23%) indicating they identified as female, and four (10%) stating they identified as non-binary or transgender. Participants were generally

from middle to upper socio-economic families, although about 20% discussed financial need and challenges with financing their college matriculation. Most participants (73%) reported their belief that they would graduate on time, indicating their belief in their academic success. Sample size guidelines suggested a range between 20 and 30 interviews would be adequate but data gathering continued until 40 interviews were completed, using purposive sampling to select additional cases (Creswell, 2007).

3.2. Analysis and Procedures

Qualitative methods, specifically, thematic analysis was used to analyze and synthesize similarities and differences, themes and patterns, and to describe and quantify phenomena across hundreds of pages of data (Braun & Clarke, 2006). Using thematic analysis enables themes to emerge from existing and repeating patterns in this interview data that reveal deeper meaning and enable researchers to better understand complex experiences such as “support for belief in self” or factors that contribute to self-identity. Examining a common focus across multiple cases, in this case, the self-perceptions of academically successful students who are 2e/ASD about their ASD and academic talents, enabled an analysis of how and why perceptions might have influenced the academic success of this population in both high school and college. This design integrates both qualitative and quantitative methods that enabled researchers to gain an understanding of students’ perceptions. Our goal for this study was to better understand these students’ self-perceptions of their strengths and talents as well as their disabilities using qualitative thematic analysis methodology (Lambert & Lambert, 2012; Merriam & Tisdell, 2016).

This study employed the data analytical six-phase thematic analysis framework proposed by Terry et al. (2017): (a) familiarization, (b) coding, (c) theme development, (d) reviewing themes, (e) defining themes, and (f) producing the article. The flexibility of this approach allowed us to utilize deductive codes identified in previous, overlapping research while also identifying additional codes through inductive content analysis. For example, deductive codes derived from previous research included participation in advanced or accelerated classes, participation in interest-based independent or small group projects and/or extracurricular experiences (Reis et al., 2022).

The six phases of thematic analysis were implemented as follows. First, participant interview transcripts were reviewed multiple times to achieve familiarity with the data. Second, deductive coding based on a review of pertinent research, as described above, was completed, followed by inductive coding to identify practices not previously discussed in the research literature and to explore why and how participants employed these and other practices. Third, the data were coded to identify broader patterns leading to an initial set of themes (Terry et al., 2017). Approximately 35 codes were identified during this phase of the thematic analysis. Fourth, the codes identified earlier were critically reviewed, examined for consistency and relevance to both the dataset and the study’s purpose (Terry et al., 2017). During this review process, multiple codes were combined into broader themes that provided more comprehensive reflections of the data. Fifth, the themes were described in the final phase of thematic analysis, as outlined in Table 1 below, and this article was drafted integrating the defined themes into a cohesive narrative addressing the study’s research questions. This final report highlighted data supporting each theme and provided context regarding the study’s significance (Terry et al., 2017).

In this article, we summarize these emergent themes related to participants’ perceptions and beliefs of their strengths and challenges associated with being identified as 2e. Individual perception of strengths and challenges is important because it can shape one’s thoughts, beliefs, feelings, as well as certain behaviors. One’s self-perceptions can also influence confidence, mental well-being, and ability to achieve both academic and life

goals. Newer research suggests that when high school and college students identified as 2eASD have a strong and positive self-perception, it can lead to higher levels of confidence, motivation, the ability to complete work, and realize positive outcomes. Having negative self-perceptions, unfortunately, can lead to anxiety, decreased self-esteem, and difficulty in achieving goals. In one important and classic study, [Lackaye and Margalit \(2006\)](#) found that students with learning disabilities, as compared to their peers without learning disabilities, had lower levels of achievement, effort investment, academic self-efficacy, positive mood, and hope. They also had higher levels of negative moods and loneliness. In this study, the self-perceptions of 40 college students identified as 2eASD were investigated through a series of interview questions about their personal understanding of their talents and disabilities.

Table 1. Definition of Themes.

Theme	Definition
Theme One: Lack of Understanding of Participants' Twice-Exceptionality Label	Participants generally did not understand the nuances of their twice-exceptionality, especially in new academic and social settings. They said they knew they were academically talented but often doubted it in challenging settings and often experienced social difficulties and anxiety in new or nuanced settings.
The Importance of Having Others Validate their Talents	Having teachers and parents explain and validate their talents and receiving praise and compliments for their academic success was critically important, as was their participation in advanced and accelerated classes; contributed to self-identity as a capable student who could handle challenging work and a competitive college.
Positive Outcomes of Attending Competitive Universities and Achieving Success Despite Shifting Self-Perceptions	Being accepted and matriculating at competitive universities positively affected their academic confidence and success, even if initially or periodically felt as if they could not succeed either academically or socially; individual successes eventually led to collective success over time.

3.3. Limitations

Limitations exist in this study, including the participation of college students who volunteered to be interviewed, suggesting that they may be a more selective group. Another limitation was self-report interview data that could be inaccurate or biased by participants' memories or socially biased responses. Semi-structured interviews are a useful method for data collection in qualitative research to explore participants' thoughts and beliefs about a particular topic. Researchers must be careful to avoid bias and inconsistency. Three experienced qualitative researchers conducted the interviews over a period of several months, working in teams in the first phase, and using previously developed qualitative interview skills for balance, consistency, and depth.

The interviews were conducted during the pandemic, which might have affected participants' perceptions of academic and social success in their college or university settings.

The [U.S. News and World Report \(2020\)](#) Best National University Rankings are only one way to capture the "competitiveness" of the institutions in which the students were matriculated. This commonly used framework is only one way that institutions can be ranked as highly competitive. The participants' identification as ASD could also have been a limitation, as our primary method for recruitment was by contacting centers for students with disabilities in competitive universities. Each of these centers requires documentation of their disability to qualify for services for which all participants are qualified. Other limitations include the high volume of data, as hundreds of pages of interview data was reviewed but these were addressed by creating data matrices and frequency tables in our analysis.

3.4. Thematic Findings

3.4.1. Theme One: Lack of Understanding of Participants' Twice-Exceptionality Label

Participants were asked if they understood themselves as both academically talented and with ASD, and that they possessed both educational strengths and special needs. Slightly less than half (19, 48%) responded positively, indicating that they did understand what being identified as ASD meant. Most said they could explain and summarize what they had learned about their autism over time, generally explaining that they accepted their diagnosis and learned from it, but they often were unsure of how this identification would affect their work and later life, including graduate school. As noted below, many of the responses to interview questions showed a surface response and a limited understanding of the confluence of being identified as twice-exceptional. In a review of responses to several questions related to these difficult concepts, even participants who said they did understand the duality of their diagnosis expressed doubts about their talents and abilities. They often explained that they knew they were smart but did not always feel that way or in certain situations, they

Various illustrative and representative responses that contributed to this are included below. As Caleb explained, many understood that they had academic strengths and that school was often not challenging:

Yes, I understood it, and I knew that I had academic strengths as high school was easy for me.

Carlos had a similar response about his autism, and he explained his emerging understanding what being twice exceptional meant:

I always knew that I had attention issues, but I did not initially understand that I was smart—I always knew that I was different. I began to understand what 2E meant . . . and I began to understand to understand what it meant to have friends.

Walter also said he understood his twice exceptional but added a caution about being both ASD and smart and how his identity often shifted, from feeling smart to not feeling smart in certain circumstances.

However, I've been told different definitions of what it means, and I think some are better than others. I always knew that I was smart. I didn't feel smart in high school—sometimes I have a voice in my ear that tells me I am not smart.

Sasha explained that she understood her twice exceptional label and that she had parents who celebrated her abilities:

I did understand that even earlier—I was always aware of what it was—it was who I was. My parents were so proud of me, and they were fabulous.

Joseph's understanding evolved over time, and he felt fortunate that his autism had less of an impact than his sister's, who was more affected by her diagnosis:

I think I always have in a way. My sister is also autistic; she was diagnosed at 2 or 3 and she's more heavily impacted than me so it's always been in my life. I think I've always been pretty well informed, I've done a project about it, I don't think anyone ever sat down and said, "this is going to be difficult" we just kind of moved forward.

These responses suggest that our participants, even those who may have said they understood their dual exceptionality, had conflicting views about it that changed their understanding over time. Most had questions and concerns about both their talents and their disability. This lack of clarity affected their self-identity, which shifted over time, often when they encountered a challenging academic or social situation. A similar

number (16, 40%) explained that they did not understand what it meant to be labeled twice-exceptionality and were confused because they had usually been told they had quirky personalities but were not identified as ASD. Most reported having suspicions that they had a disability but admitted that they did not really or clearly understand this disability. Many believed that their parents did not clearly explain the co-morbidity of talents and disabilities or in some cases, hid their diagnosis as having ASD.

Eva explained that she did not really understand her ASD and that it “was a lot” for her to “take in”. She also explained that her mom was more understanding than her dad, stating: “I don’t think anyone explained my strengths and needs, I just figured it out.”

Jacob explained that he lacked a clear understanding of his twice exceptional identification:

No because I was not told, I was so high functioning that my mom didn’t tell me until I was a sophomore in college. I didn’t have the best grasp of it. The best education I had about it was a YouTube video, no one ever sat down and talked to me about that.

Rachel also had some misgivings about her awareness of her twice exceptional label, explaining:

I did have suspicions. I had been doing my own research to figure out what was going on. Not necessarily what was wrong but why my brain functioned differently. I started my sophomore year of high school. By the time I graduated I was pretty sure I was autistic.

Ashley also seemed to understand more about her twice-exceptionality as she progressed in high school,

Not really, it was just another label given to me and it was what it was, so what I did with that was up to me. Things clicked, like having trouble communicating and I understood better when I was having moments when I wasn’t functioning as well, it’s not just me being a problem, there’s a reason, it validated that for me.

Others were less fortunate in their high school experiences and neither their teachers nor parents discussed their identification as 2eASD, suggesting that their misunderstandings about their identity and talents continued. Melissa explained, “No one in high school talked to me about what I could do—I worked hard at academics, though. I did not understand my strengths.”

A few participants explained that they had negative experiences that failed to help them. Pete said that he did not understand his profile, and that his disability was a negative for him, “it made me feel worse because I was in a special education course, so we were all just lumped together. Bullying didn’t help.”

It is important to note that slightly over half of our participants had mixed or negative responses about whether they understood their dual exceptionality, explaining that they were confused or unsure about their strengths and weaknesses related to their diagnosis of 2e.

All I understood was there’s things I’m good at and things I’m not, I get hyper focused on things, and I’m not good at things socially. That’s all that was taught in high school, everything else I learned on my own. (George)

I am not sure—I knew my academic strengths. I get a bit excessive at times. I overwork and freak out about things, especially big tests. Socially, I had huge weaknesses, and I don’t put myself out there. I guess I appear to be distant and rude. I seem uncaring—my roommate is unhappy with me. (Jackson)

Well, before I graduated from high school, I got some information, read books, discussed it with a professional and my parents. Even so it all felt a little abstract, I have certain coping and ask for clarification and look into what others are saying and ask them their perception. It was very grey. (Mary)

3.4.2. The Importance of Having Others Validate Their Talents

Over half (53%) of our participants reported that they had been identified as academically talented in elementary or secondary school. Several reported that the comprehensive assessment used to identify their ASD also brought attention to their academic talents and potential. Participants were all asked when they had been first identified as having gifts and talents and by whom. The majority explained that their teachers were responsible for helping them gain an understanding that they were academically talented, as these representative responses explain.

Yes, they had me in the gifted program. Then after that I went to a gifted school. (Avery)

Yes, I was aware I was smart in school. (Evan)

Yes, I was in the talented and gifted program in elementary school. Every so often we would go to a nearby school to hang out, read books, it was like an additional class for us. (George)

Yes, I was given an IQ test, and my parents were told I was very smart. (Larson)

Slightly less than half of the participants (19, 47%) explained they had not been formally identified or recognized as gifted, usually because they attended independent schools without procedures to identify gifted students. But every student who said they were not formally identified stated that they believed in their own abilities and talents. They also reported being told that they were smart by teachers and parents and having knowledge of their talents. It was also clear that they were able to participate in advanced, accelerated, or enrichment types of educational experiences in high school, which had a positive impact on their self-identity and path forward to a competitive college environment. Most offered statements such as “I was always told that I was smart” and “My parents always knew that I was smart.”

No, but I was a good student and had some enrichment opportunities. (Chris)

No, but I took a few honors classes. I skipped a year of math. (Edgar)

No but I am pretty sure I'm learning disabled and gifted. I've taken a couple of accelerated courses with John Hopkins. (Joseph)

These students, who were never formally identified as gifted or talented, reported that they were recommended for and received specific advanced, accelerated, or enriched educational experiences. When asked about various types of advanced and/or accelerated opportunities, participants were able to list many specific examples, as indicated below.

Yes, I took mostly honors and I took AP US, literature, and American politics. (Anna)

I went to a very small high school and there was no advanced content, but my teachers provided me with very advanced content in the areas in which I had interests. (Asher)

I took mostly honors courses in high school, but I also took AP Psych. (Ashley)

I took 2–3 AP courses every year and everything else was honors. (Avery)

Yes, in several areas—pre-physics and math and usually in STEM classes Yes, I also participated in some enrichment programs—if it was noisy, I could leave my class and go to a few pull-out programs that they called enrichment—like talks and workshops. (Chris)

Yes, I took AP American and European history as well as honors English. My parents wanted me to take these advanced classes. (Larson)

Yes, in advanced/accelerated courses. I did that because I did some community college courses, and I was reading college age textbooks in junior high and high school. (Mary)

Yes, I went to a Charter school for elementary in middle. In first grade I did a lot of 2nd grade work. If I was bored in class, they would give me higher grade level work to do. I took many honors classes in high school. (Rachel)

One reason that our participants believed they were successful in college was that their academic talents had been recognized by both their teachers and/or parents in elementary and secondary school. Over time, they became more confident that they had talents and developed a belief in themselves, which helped them become more successful academically. As stated, more than half of the participants were identified as academically talented in elementary or secondary school, and the remaining participants were told they had strengths, participated in advanced and accelerated opportunities, and eventually they began to believe that they did have talents.

Their teachers usually recognized their talents and advanced abilities first, but later, they were also acknowledged by their parents. As is suggested in the examples above, participants were proud of and positive about the benefits of their enrollment in advanced and accelerated classes. They explained that they could succeed in accelerated and advanced work during their high school and college experiences. They understood the personal benefits they achieved from participating in these advanced opportunities, especially related to how these academic challenges prepared them for subsequent success in college and later in life.

3.4.3. Theme Three: Positive Outcomes of Attending Competitive Universities: Achieving Success Despite Shifting Self-Perceptions

Participants in this study were academically engaged and challenged at their competitive college and university settings. As Caitlyn explained, “It’s easier to go to class with something you’re thinking about all day anyway”. Their strong academic interests in a topic or content area made focusing on advanced material an easier task. As Caitlyn continued,

I tend to get very interested in some of these topics and I want to learn as much as I can and do extra problems, so that can be a strength. As far as math goes, that’s always been pretty simple, I’m an engineering major so that’s always been a big thing. Following and understanding functions.

Participants enjoyed advanced content and ideas and often assumed a leadership role, as Adam explained, he loved ideas:

The ideas. The thought of teaching and explaining, right now I have a group in organic chemistry, and I help tutor them. Taking ideas and transforming them into things people can understand. Not just for me but to transform that into things other people can understand. When teachers do that, you get the ah ha moment. (Adam)

And again, as Asher also explained, he figured out a way to excel as he was so involved in the content.

When I am into something—I never stop. I could take extra credit courses in the summer at (college X) to take extra live classes. Going early and being there with a smaller group made a huge difference.

When these students loved their content area, they excelled, even if the courses they needed were in their major were challenging.

History classes have been the best—anything that I enjoy doing is easy for me. Math is hard. Each learning experience helped me to grow. I keep growing. I have learned to communicate my ideas so much better now. (Asher)

Their journey to achieve positive outcomes was critical to their eventual acceptance of their disabilities and success in college/university life.

I registered with the disability services center, and I have regular meetings with my disability coordinator. I attend office hours religiously; I make so many different connections. I go to all office hours. (Asher)

Identifying which resources were necessary, finding sufficient resources, and registering for and then using the resources that were available were continuing challenges that needed to be solved over time. That process also contributed to a stronger self-identity and understanding as a successful student. When asked what was easy in college, Ashley responded:

Probably academics now that the other parts of my life are figured out and I have all the resources I need. I've always loved school, and I've always been someone who wants to learn and get good grades. I have the drive to want to do well and do my homework even if I'm not feeling well. (Ashley)

This emerging understanding of their identification as twice exceptional was important over time and contributed to their emerging self-identity, as participants began to understand that they needed to interact and meet with faculty and other students, especially in challenging classes, as Avery explained,

...initially the first half of the term my grades weren't the best, but I talked with my professor and he explained what I had to do to bring my grade up and I worked hard and I got great grades on everything else and studied nonstop for the final and got a good grade, then I ended with an A, up from a C. I was able to work hard and the professor was able to work with me and explain. (Avery)

Participants, again over time, became more comfortable asking for accommodations, suggesting that they had learned about what worked for them, compensate for their ASD, and communicate with their professors about alternate ways to disclose their disabilities while simultaneously demonstrating advanced understanding. Many mentioned their recently gained confidence to ask important questions, think critically, and request alternate assignments.

One thing that I did like was that high school taught me critical thinking skills. That helped me a lot. Having critical thinking skills helped me. I also learned how to ask questions. (Carlos)

The process of learning to be successful, both academically and socially, emerged over time and was positively influenced by challenging classes, interest-based academic challenge, professors who became an important part of their academic success and participants' emerging self-identity as intelligent and worthy members of a competitive academic setting. The participants often found the professors who helped them the most. These positive actions and settings contributed to their emerging self-identity, even when they experienced challenging academic and social situations.

As Susan explained,

The best professors understand the anxiety that students have individualize. Like in public speaking, I had challenges finishing my speeches due to anxiety. She let me finish during a smaller group class. She cared about me and changed the conditions. She made a personal connection with her students. (Susan)

4. Implications

An increasing number of students with disabilities, especially those with ASD, struggle with academic and social and emotional problems that inhibit their learning and restrict some of their choices. It is important for educators to understand some of the factors that enable these students to succeed in challenging academic settings and competitive colleges. For example, educators should understand the importance of identifying strengths and

encouraging belief in self and strong self-identity as talented in students with 2eASD. This could happen in many ways, especially with positive discussions about students' talents, recommendations for them to participate in strength-based opportunities such as accelerated classes and advanced learning situations in which students can complete advanced work. Educators should also consider complimenting students on their strengths and talents explicitly. Suggestions for advanced work and extra-curricular activities based on interests and talents will also benefit these students as they begin to learn about their strengths and how to interact with others. Educators can also group students with 2eASD with other smart students without disabilities to enable opportunities.

Participants benefited from being told they were smart, being encouraged to work and interact with other students with high potential, and pursuing their interests both academically and socially. When an understanding of their unique profile of strengths and disabilities became clear over time, these participants were also able to apply their talents to identify ways to be successful at learning, such as using disability centers, asking for help and applying critical thinking skills learned in academic settings to compensate for their ASD. They also need to continue to work to develop positive relationships with other students and faculty over time to enable further success at school and the ability to communicate what they need to do to be successful in specific classes and learning environments.

Also, when educators understand the types of academic and social and emotional support that these students need to become successful and develop a belief in their talents, they can better support their social and emotional needs in instruction and through mentorships. Students identified as 2eASD should be encouraged to participate in advanced or accelerated content in areas of interest, as well as identify and apply to competitive colleges with strong disability service programs for students with ASD. This research demonstrates that students with 2eASD can and do learn to understand their profile of talents and disabilities and when they do, even if their perception of talents shifts over time due to increasing content or social challenges.

More students identified as 2eASD are being recognized by their teachers as having academic talents and strengths, and this research demonstrates that many benefits exist when these students can enroll in and succeed in advanced and accelerated classes in high school and college. It is an extremely positive finding that students with 2eASD can identify as having talents and advanced abilities in academic areas. When they do, their self-perception of abilities and talents begins to shift positively to self-identification of strengths and interests, contributing to stronger success in academic settings. These students also benefit from forming relationships with other talented students, who they come to understand are like themselves and identifying the strategies and resources needed to succeed in competitive learning situations. Their experiences contributed to their subsequent academic and personal success and increased self-identity as having academic talents as well as ASD.

5. Conclusions

Little research has been conducted on the self-identity of academically talented students with ASD regarding their strengths and academic experiences in secondary school and as they transition to college. As more students with autism are matriculating and subsequently dropping out of college, resources are wasted and opportunities for talent development diminish. This research suggests that young adults with both talents and ASD can be supported toward the path of academic success when guided by teachers and parents who acknowledge their academic talents and recommend participation in strength-based academic opportunities that support their talents, while simultaneously addressing their disabilities. Students who are both high-achieving and have ASD need the

opportunity to understand that they have talents, understand their strengths, and develop positive self-identities as having academic strengths and talents before they can successfully develop their academic talents. They need to continue to develop positive relationships with other academically talented students and faculty who understand their strengths and curricular needs. Students with 2eASD need to continue to be recognized as academically talented in high school and college and to rely upon what they have learned about their strengths and ability to succeed to further enhance their positive self-identity, a finding of this study. Doing so will increase their opportunities to be successful in college, as well as help to identify and enhance their personal and academic interests. These interests, coupled with educators' and parents' knowledge of their talents, can enhance their success, contribute to their acceptance to and matriculation at competitive colleges, and increase their chances of success in academe, as well as later careers.

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