



***Twice Exceptional Students
with Autism (ASD): How
Strength-Based Pedagogy
Encourages Academic
Achievement, Engagement
and Success***

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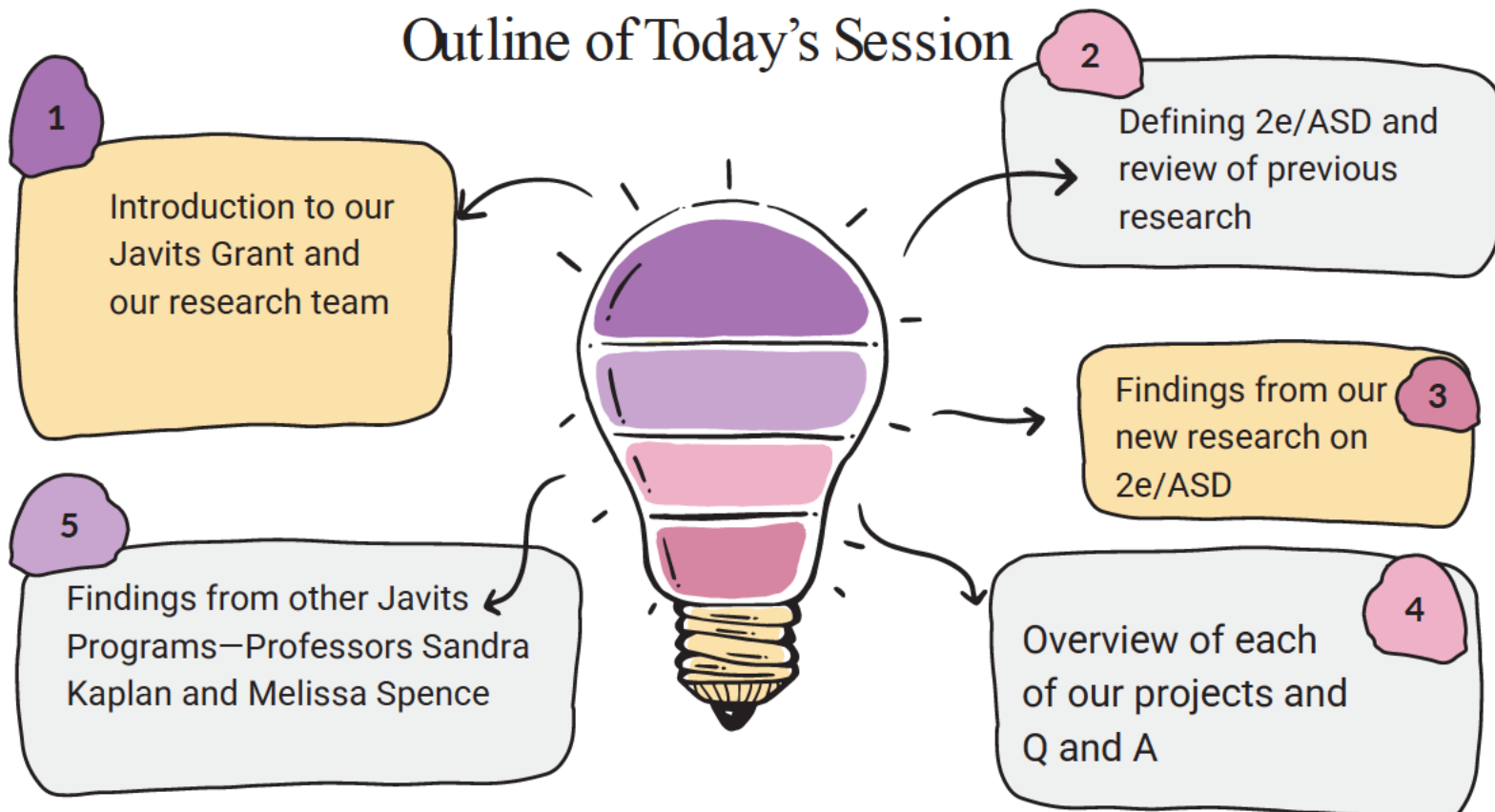
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Outline of Today's Session





Overview of pertinent, previous 2Eresearch



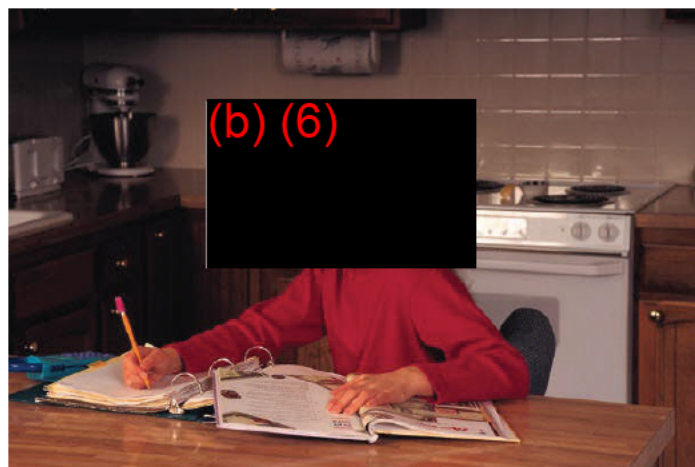
Who are 2E students?

- Twice-exceptional learners are students who demonstrate the potential for high achievement or creative productivity in one or more domains such as math, science, technology, the social arts, the visual, spatial, or performing arts or other areas of human productivity AND who manifest one or more disabilities as defined by federal or state eligibility criteria (Reis et al., 2014, p. 222).

Talents in Two places: Case Studies of High Ability Students with Disabilities in a Competitive University

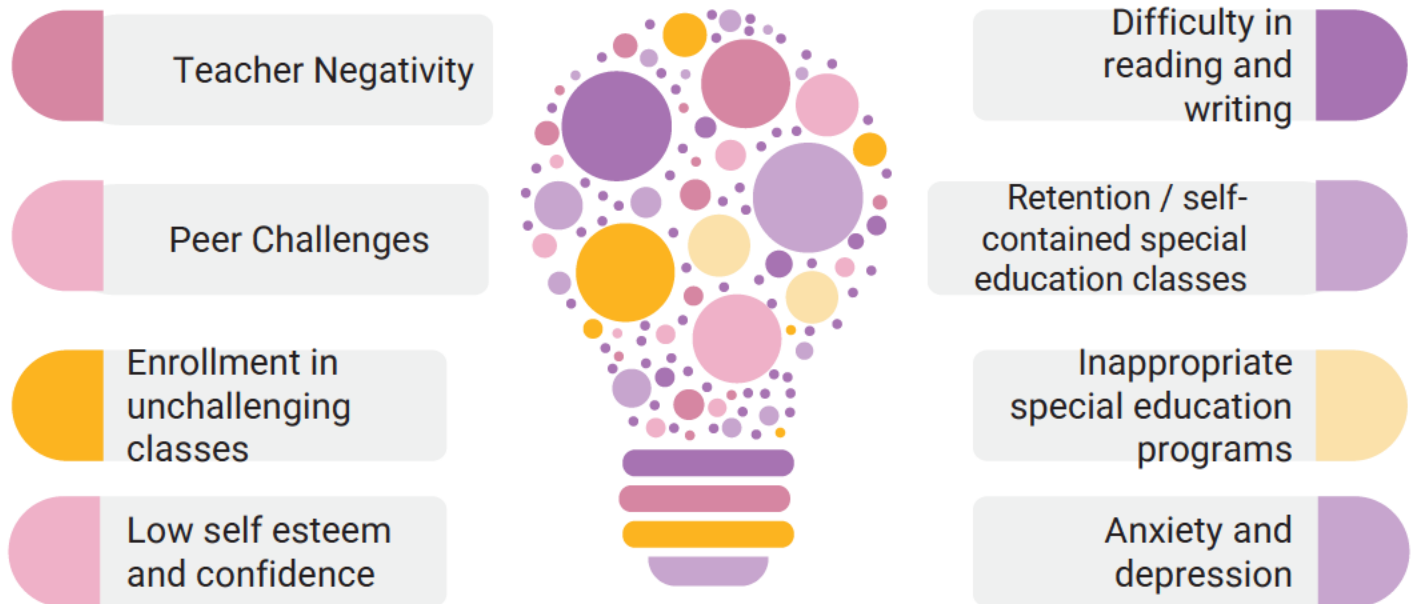
We studied:

- self-perceived academic strengths and weaknesses;
- specific educational intervention and assistance necessary to succeed in an academic environment;
- types of counseling/support strategies necessary to help realize their potential

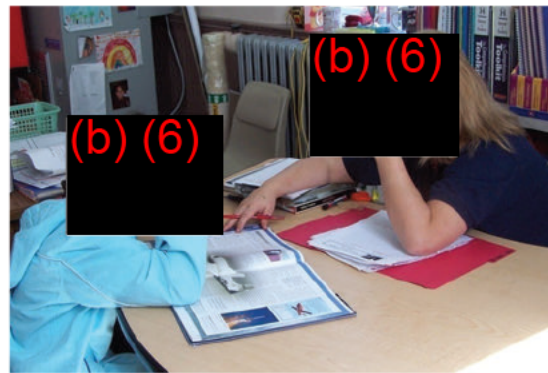
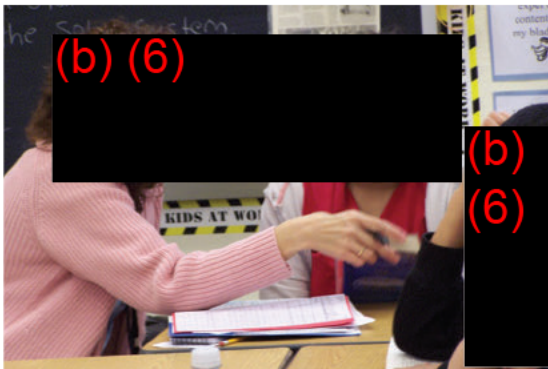


Difficulties Encountered and Social and Emotional Challenges—Previous Research (Reis and colleagues)

Late Identification as having a learning disability

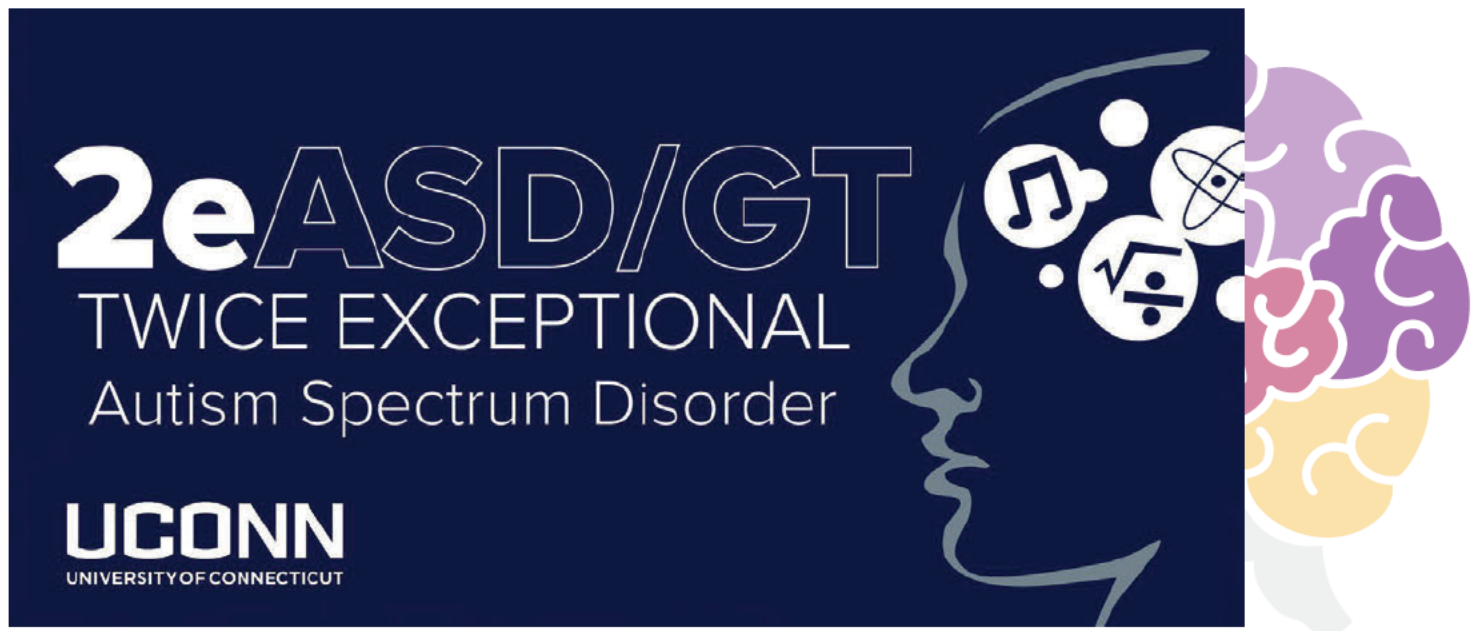


In our previous 2E studies...



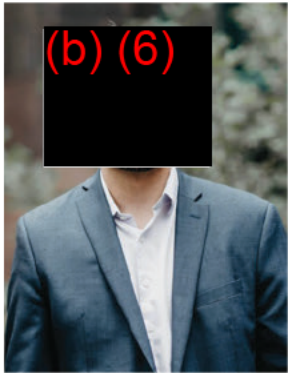
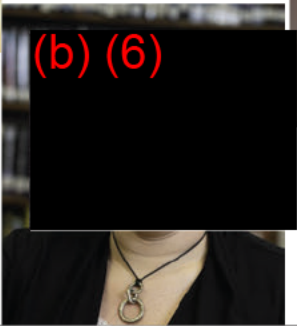
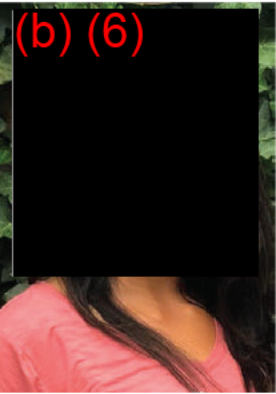
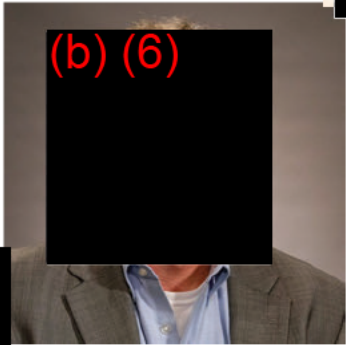
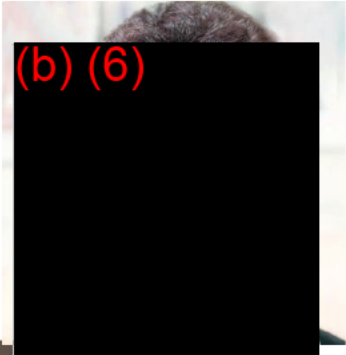
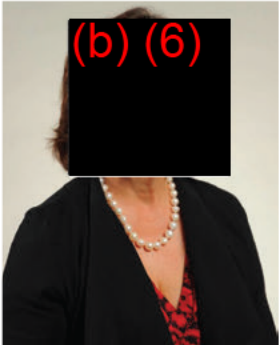
- Parent advocates were a primary reason that gifted students with learning disabilities are able to succeed in school—they never gave up and knew, intrinsically, that their children had strengths and talents, even when all educators refused to see them.

Current Research: What is Project 2E-ASD?



<https://giftedasd.project.uconn.edu>

Our Research Team



<https://giftedasd.project.uconn.edu>

Project Twice Exceptional with Autism Spectrum Disorder (2E-ASD)



U.S Department of Education, Jacob K. Javits
Gifted and Talented Students Education Program.
Award amount: \$2,587,924.




Project 2E-ASD focuses on how to identify
and teach academically talented and high
ability high school students with ASD.

Can you give me some advice on my smart high school student who is identified with ASD? Where should she go? Should she start at a smaller college? Have you conducted any research about this group? How can I help her? What advice can I give her?

Summary of Comments on Using Strength-Based Pedagogy to Engage and Nurture Neurodiverse Students' Development: Current Research and a Personal Journey

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Project 2E-ASD is a recently funded grant from the U.S. Department of Education under the Javits program to study academically successful students with Autism Spectrum Disorder (ASD) as they transition to college. As a part of the first year of the grant, three studies of successful college students with ASD were conducted and serve as the basis of this presentation.



2020



2021....



Why study this population?

In 2020, the CDC reported increasing numbers (one in fifty-four children) are diagnosed with Autism Spectrum Disorder (ASD).


But very little educational research exists on smart kids with ASD, especially related to effective instruction and academic success....



What we know about 2e/ASD students and academic success in high school, as well as transition to competitive colleges..



- Students with ASD currently **enroll in college at lower rates** than their peers with all other types of disabilities (Gelbar et al., 2015; Shattuck et al., 2012; Wei et al., 2016)
- They **leave college programs prior to completion** at higher rates than their peers (White, Ollendick, & Bray, 2011).
- Low rate of college participation has **significant economic and personal costs for youth with ASD**, their families, and society (Wei et al., 2016)
- Resulting in **underachievement, underemployment, loss of talents, and sense of personal failure.**

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Davits story
Call from a professor colleague at a school of education

Recent Research:

Study 1- Online Survey of 147 College Disability Providers

Key Findings: What do neurodiverse high school students need most to succeed academically and enroll in competitive colleges?

- **Executive function (including learning/study strategies and time management)**
- **Social Adaptability**
- **Self-determination/self-advocacy skills**
- **Self-Awareness**



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Study 1 was a national online survey of professional staff who work in disability service offices at college/universities. The purpose of this study was to investigate the academic and social experiences of successful college students with ASD, as the majority of the research with this group focuses on descriptions of the challenges they face (Gelbar et al., 2014). Recruitment materials were sent to two sources: 1) an e-mail list of 92 staff that work at college programs that are specifically designed to support individuals with ASD and 2) an e-mail list of 1880 college disability service personnel that have attended the preeminent conference for this discipline.

The following percentage of disability providers believe, in their work with this population that students with ASD experience:



- anxiety (91.2%),
- social isolation (85%),
- loneliness (81.4%),
- depression (62.8%).
- And that half who matriculate are academically unprepared for college

Study 2- Service provider interviews-- what factors facilitate the academic success of university students with ASD and must be developed in high school?



- Self-determination/self-advocacy skills (most commonly noted skill)
- “Touch points” or contacts with an advocate or mentor on campus
- Involvement in clubs or other socially based activities
- Executive function (including learning/study strategies and time management; understanding how to complete projects and academic expectations)
- Positive social interactions - especially in regard to group/team projects; interactions with instructors

Study 3: 40 interviews who are 2e/ ASD(article provided)

The participants:

- 27 (68%) stated they identified as male, nine (23%) indicating they identified as female, and four (10%) stating they identified as on-binary or transgender;
- 18 % were culturally and linguistically diverse and 43% attended a community college or another college before transferring to their final college.



Research Questions and Methodology



- (1) What are the perceived factors and experiences promoted academic success in high school?
- (2) What specific strength-based teaching and instructional opportunities occurred and were used with these talented 2e/ASD students?

We used directed content analysis enabled earlier research findings to be considered in coding and analysis (Baum et al., 2014; Foley Nicpon et al., 2011; Reis et al., 1997; Reis et al., 2021; Wang & Neihart, 2015) and for others to emerge during data analysis (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005).
<https://link.springer.com/search?query=Reis&search-within=Journal&facet-journal-id=10803>

Sample of colleges and universities attended for those who were in college

- NYU
- UConn
- Cornell
- USC
- Cal Arts
- BU
- BC
- Drexel






Successful 2e/ ASD College Student Interviews

Findings include:

- The majority of our participants (n=21; 53%) received enrichment and/or talent development opportunities and were identified as having talents/strengths.
- 90% of the sample (n=36) participated in at least one extracurricular activity in high school and 50% (n=20) had participated in at least one residential (camp or enrichment) experience.
- Almost three quarters of participants took AP or honors courses (or courses in which they could earn college credit) while in high school (n=29, 73%).



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40 students with ASD at competitive colleges in the United States were interviewed.

Sample Interview Questions



- Participation in enrichment or gifted programming
- Participation in special education or 504 plan
- Participation in advanced, honors, or accelerated classes
- Participation in sports
- Participation in clubs
- Participation in extra-curricular activities
- Your transition from High School to College
- Participation in afterschool activities, clubs
- Participation in residential programs away from home
- Are there any types of supports you think would be helpful that you don't currently receive?

Sample Interview Questions



- What do teachers do in classes that make learning easier for you?
- Are there parts of college that have been difficult or challenging?
- What's your favorite part about college?
- How successful are you academically?
- Can you tell me about things that teachers do that make learning more difficult?
- How often do you use the accommodations that you have?
- How effective are they?
- Are there any types of supports you think would be helpful that you don't currently receive?
- Can you tell me which coping strategies you've developed to help academics, or socialization?

Sample Interview Questions



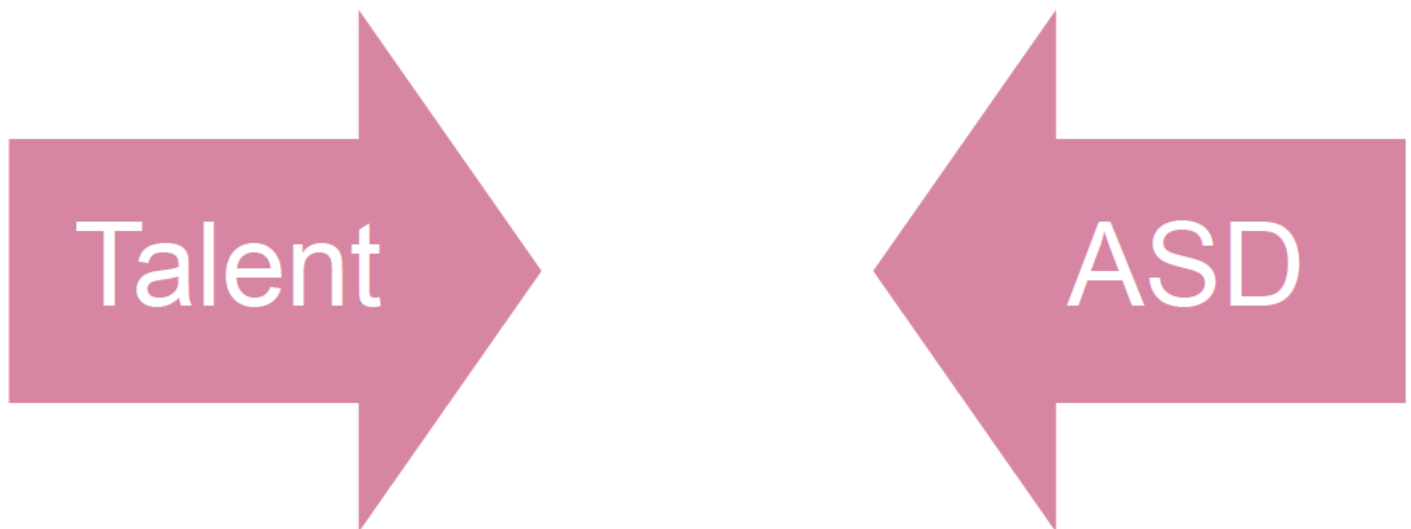
- Difficulties first encountered in high school/ college: What was easy and what was difficult?
- What worked well for you in high school
- What did not work as well in high school
- What helped prepare you for college
- What would you change about high school to make it better for you
- If you could go back to high school what things you'd want to learn that would make the transition easier?
- What do you wish your teachers knew about you?
- What things do you wished that your teachers had done differently?
- How effective your high school was in preparing you for your competitive college
- How did your high school prepare you for selecting your college major and career interests?


Sample Interview Questions



- Did you understand what having ASD meant for your strengths and needs
- What parts of college have been easy for you?
- Are there things teachers do in classes that make learning easier?
- Are there parts of college that have been difficult or challenging?
- How successful are you academically?
- Can you tell me about things that teachers do that make learning more difficult?
- How often do you use the accommodations that you have?
- How effective are they?
- Are there any types of supports you think would be helpful that you don't currently receive?

Findings: A Convergence of Talents and Disabilities




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Across all three studies, the idea that the convergence of ASD and academic talent led to success especially when students were able to understand this intersection.

Findings- Successful 2e/ ASD Student Interviews—see articles

- Unlike previous research on the general 2e population, over **half of our participants had been formally identified as having gifts and talents** while in school.
- A majority (n=21; 53%) indicated that they **received enrichment and/or talent development opportunities**.
- The vast majority, **90% of the sample (n=36), participated in at least one extracurricular activity in high school** and 50% (n=20) had participated in at least one residential (camp or enrichment) experience.
- **Almost three quarters of participants had taken AP or honors courses** (or courses in which they could earn college credit) while in high school (n=29, 73%).

 Number: 1 Author: Presenter Notes Subject: Presentation Notes Date: 1/27/2023 4:17:15 PM
40 students with ASD at competitive colleges in the United States were interviewed.

Most participants' **academic talents were formally recognized, as over half reported that they had been identified as being academically talented in elementary or secondary school.** The rest were recognized by their teachers and parents as having advanced and academic talents students but they did understand that they had academic talents, leading them to volunteer to participate in this study. They attended schools that did not utilize formal identification as gifted, or were not identified, potentially due to their dual diagnosis as academically talented, with ASD.



Dual Identification—over 50% were formally identified

- “I went to a Charter school for [gifted students] in elementary and middle. In first grade, I did a lot of 2nd grade work. If I was bored in class, they would give me high grade level work to do.”
- “Yes, I was in the talented and gifted program in elementary school.”
- “I understood and I knew that I had academic strengths as high school was easy for me.”
- “Yes, they skipped me a grade and put me in gifted classes.”



Meet one of our participants: graduated from a competitive college and just completed her MS degree

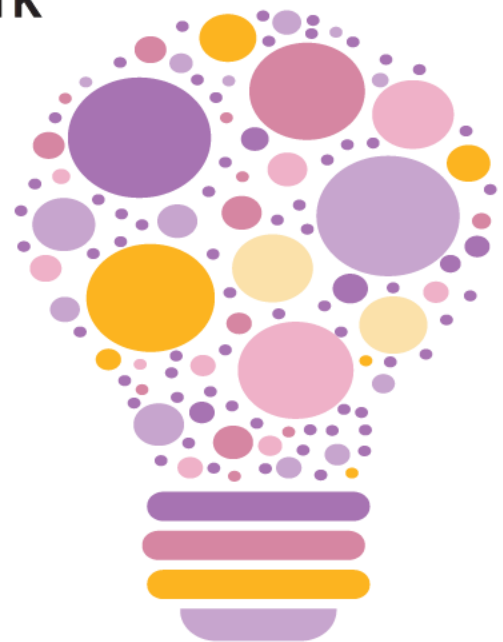


Honors and Advanced Classes

- "Yes, I went to an all-honors selective high school--and yes, I took all of the AP courses...I was accepted at a selective enrollment G/T (gifted and talented school), a test-in school."
- "I went to a very small high school and there were no advanced content classes, but my teachers provided me with very advanced content in the areas in which I had interests."
- "The hardest classes are the easier ones because I'm not being challenged, it's not boring but it's too easy so I have to make myself want to learn it."

Advanced Classes and Academic Work

Most had enrolled in at least one advanced and/or accelerated class, with most reporting taking **multiple Advanced Placement and honors classes in their high schools in areas of personal interest**. Some students completed concurrent enrollment, participating in community college or regular college classes simultaneously during high school. Some who indicated that they did not take honors or advanced classes attended small independent high schools that did not offer these opportunities.



Advanced Content Opportunities:

I had an amazing teacher who gave me opportunities to participate in projects. One of my mentors was a science teacher and she also gave me advanced opportunities. She gave me so many chances for advanced work. She let me apply science to the real world and to me, that was beautiful. She gave me the confidence to know that I could go beyond and to extra work. There were so many people that believed in me and gave me advanced courses and advanced independent projects. They gave me time to write short stories. They let me explore my strengths and interests. They nurtured me—they gave me a fluid opportunity. **Many public schools are like conveyer belts, but my school was like the elevator in Charlie and the Chocolate Factory.**

Extracurricular Activities

36 (90%) of the participants reported various types of involvement in these experiences. **These types of extracurricular experiences suggested preferences for individual versus team-based sports, and seemed to reflect more interest in STEM, as opposed to the humanities clubs.** In order of frequency, they reported participating in the following sports: swimming, track and field, tennis, and cross country. In order of frequency, they reported participation in robotics, computer and coding clubs.



Which Extracurriculars?

Molly's interests:

Robotics team—I loved that as I struggled a lot socially growing up but in robotics, I liked having a team. It made me feel good about myself... I was part of the women's science club. I founded a girls who code club. I was a math tutor. I am a STEM nerd.

Dylan explained:

Tennis, documentary film, senator for senior year, mock trial, band, and choir. Every year we make a film for a competition, there's a topic, we made one about education declining because there are funding problems in my town. I did it for two years.



Extra-curricular activities were beneficial to **developing students' interests, their social understandings and ability to work with others, as well as providing emerging and first-time leadership opportunities**, as several started or led clubs and activities in areas of interest, most often in smaller schools.



FINDINGS

- Half **attended residential (usually, summer) programs** that helped to prepare them for college.
- Participants indicated that having **self-awareness, self-advocacy, and time management/organization skills** were essential to their success in college.
- When faced with challenges, difficulties, or adverse conditions, rather than give up, these participants learned to find a reasonable path, **figured out how to cope, used compensatory strategies, or pursue a new direction.**
- Seventeen participants (43%) indicated that they attended a **community college, smaller regional campus, or another usually smaller or less competitive college** before transferring to their current/final college.

How did Residential Programs Help?

Involvement in summer residential programs away from home, usually in middle and high school or both, helped in many ways.

Students discussed how important it was to attend overnight theme camps, such as coding or filmmaking camps, sports camps, swim camps, boys and girls scout programs as highly beneficial to their **preparation to live with others and improve their social and communication skills.**

"...it helped my ability to communicate with others and helped me to understand how to explain what I need to explain to others about my work."

Social Issues and Feelings of Loneliness

Some of our participants did not initially make friends at college and felt alone or lonely, explaining that “I’m super isolated on campus. A lot of times I don’t even know what to do socially and a lot of times I’ll procrastinate.”

Others described the effort that being social required:

“Sometimes I eat alone, but other times, I eat with a friend. It depends if anyone's available or not. Sometimes I do want to be alone, **best I can describe is that I have a social battery and then I need to recharge** and fill it up by being alone. It’s something my mom is still getting used to. I don’t feel lonely.

On-line friendships really seemed to make a positive difference—students contacted

Social Relations

Some worried that it would be hard to make new friends in college but were relieved to find it easier than expected. Some reported only needing one friend, and if they had a close high school friend to depend on for social networking and support.

As Carlos explained:

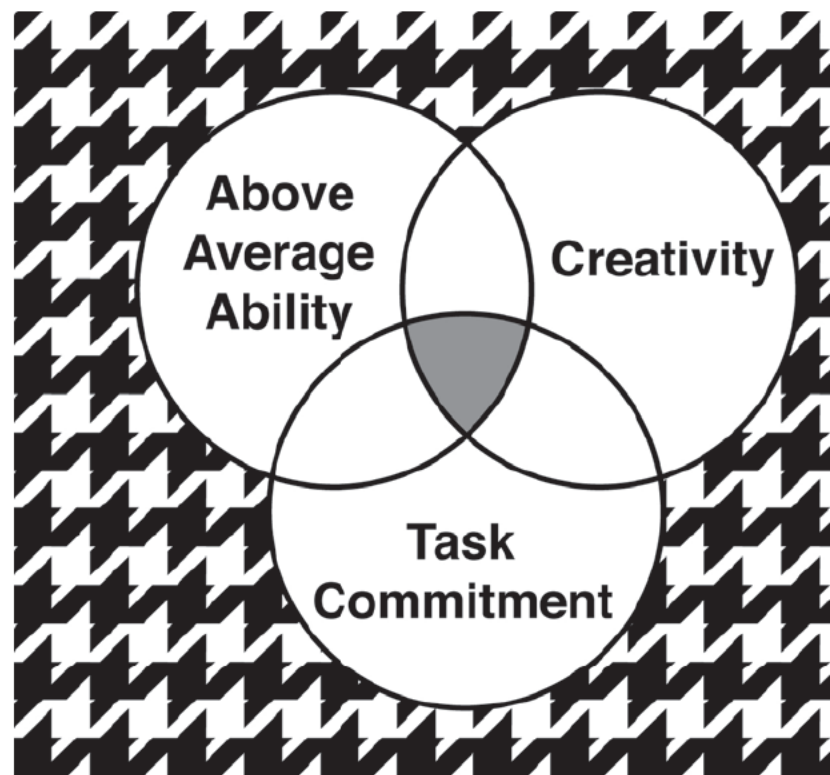
“Making friends, the social aspect, I thought it was going to be difficult because sometimes I struggle with social anxiety, but most of my friends were on the floor I live on in my building. I didn’t have to put too much effort into finding friends. **I have one or two friends to have meals with or to hang out and my high school social relationships filled a void.**”

Student's Awareness of their ASD

- "I knew early, I think as early as 5 years old. It was innate. I came more into the identity and community aspect in college, but in high school, it was just me and it didn't affect me...No one helped me figure out strengths and needs."
- "I've been told different definitions of what it [ASD] 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."

In this study--

“Perhaps the greatest contributor to my academic success is a great knack for perseverance. That’s not to say I never give up, but on the occasions where I do, there’ll be ample evidence of the notes I’ve perused, available sources I’ve reached out to, and all the subsequent trial-and-error. I’ll give just about any endeavor a fair amount of effort, maybe more if it involves learning something potentially important.”



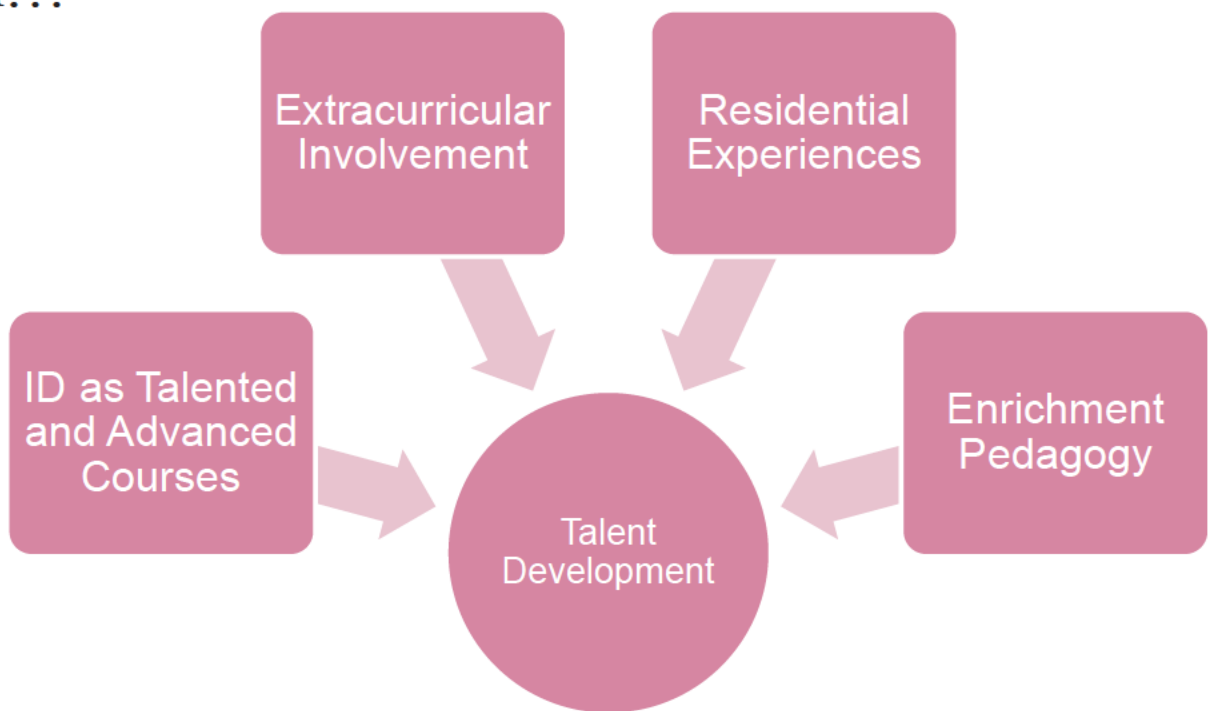
Study 4-Interviews with teachers and counselors

- Most teachers had never reflected on what they do with their 2e/ASD students
- Few had clear ideas about what worked well.
- High school teachers and counselors explained that they have so many different types of learners, all with different interests and motivations. One Jason, simply explained, “I learned that I had to treat each student differently.”

FEW HAD ANY CLEAR DIRECTION FOR BEST PRACTICE OR KNOW WHAT WORKS WELL-- NEW RESEARCH IS ESSENTIAL



Talents can be developed in 2e/ ASD students in high school...



Ongoing research: Our summer program

- Implemented an on-line summer program in which 22 2e/ASD high school (sophomores, juniors, seniors) students enrolled in an advanced university class and attended strength-based workshops about their talents, preparation for college, applications to competitive colleges
- 19/22 completed the college course
- Students were universally positive about the experience
- They particularly enjoyed the advanced content of the classes and the workshops preparing them for competitive colleges
- We are now following up, conducting surveys and in-depth interviews to learn about their high school experiences and transition plans
- Coming soon—Interviews with parents—Joseph Madaus
- And A PD MODULE THAT WILL BE WIDELY CIRCULATED

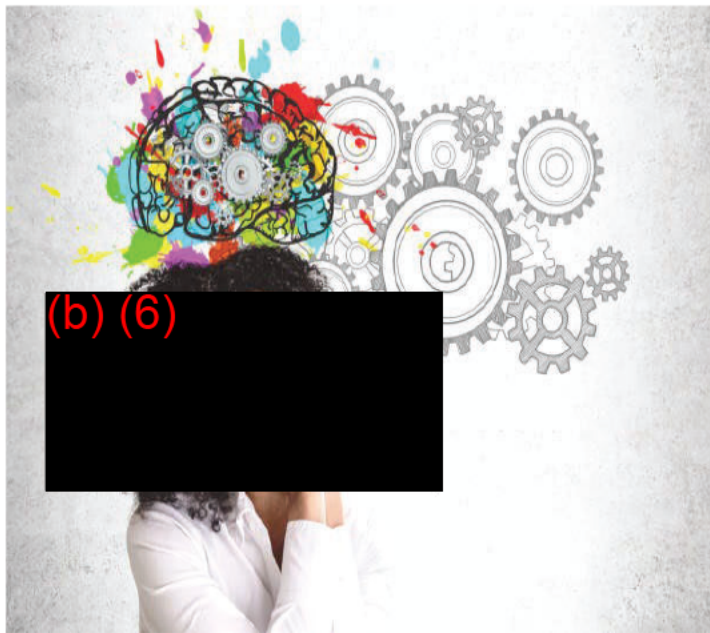


IN CONCLUSION, Our research suggests...



- Identification of talents and strengths are critical
- Neurodiverse students more often receive services focusing on remedial intervention
- Effective teaching should focus on finding a balance between developing students' academic strengths and interests and applying compensatory strategies for their learning differences in areas of interest
- Extra-curricular activities can be extremely beneficial
- The use of enrichment and strength-based strategies enhance learning and healthy social and emotional development

It is important
to understand
which teaching
and counseling
strategies
work well-
with these
populations.



Implications--Educators should help these students to:

1. Identify talents and strengths, as well as deficits
2. Participate in interest-based extra-curricular activities
3. Enroll in advanced/honors Classes to challenge and learn study and self-regulation strategies
4. Pursue interest-based advanced projects in areas of interest, and read for pleasure in topics they select.
5. Learn time management and self-regulatory skills (keep a schedule, attend class on time, do independent work).
6. Develop social awareness of strengths and deficits; apply strategies to create interpersonal connections
7. Participate in residential programs (as early as possible).
8. Create and maintain appropriate social connections—Learn from errors; analyze what works and what does not



Enjoyment

Engagement

Enthusiasm

Schools should be places for
talent development and all
students should have
opportunities and time to
develop their talents.

Have at least one strength based IEP or 504 goal

Participate in one or two honors classes in areas of interest

Substitute tests for projects in the students strength / interest area

Participate in one school-sponsored extracurricular activity in areas of interest

Identify one teacher mentor in academic and meet with her monthly program



Assume a leadership role in one extracurricular activity

Enroll in a local community college class, or online college class in areas of strength and interest

Make curricular modifications / substitutions/ independent studies in students area of interests

Provide time to participate in emotional / social support groups facilitated by school counselor or social workers

THE ROLE OF TALENT DEVELOPMENT: TEACHERS SHOULD BECOME OPPORTUNITY MAKERS



Publications to date

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