

Successful High School Transition for Students With High Functioning Autism Spectrum Disorder



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Relevant Disclosure

- Co-author of the Autism Spectrum Rating Scales (MHS, 2009).
- Co-author of Assessment of Autism Spectrum Disorders 1st and 2nd Editions (Guilford, 2009, 2018).
- Co-author/presenter Assessment of Autism Spectrum Disorders CEU (APA, 2009).
- Co-author of Raising a Resilient Child With Autism Spectrum Disorders (2011, McGraw Hill).
- Co-author of Treatment of Autism Spectrum Disorders (2012, Springer).
- Co-author of the Autism Spectrum Evaluation Scales (in development, MHS).
- Compensated speaker.



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COVID 19 and ASD

- Children and youth with ASD are as vulnerable to the effects of prolonged isolation or quarantine as other children but may experience greater difficulty adapting to our new norms, especially as inflexibility and insistence on sameness are hallmark characteristics of this disorder.
- The consequences of a pandemic and the measures put in place to decrease transmission of COVID-19 have the potential to adversely affect children and youth with ASD and their families, including siblings.
- Parental anxiety around job loss, economic uncertainty, lack of access to health care facilities and treatment centers and extension of wait-lists for early intervention programs may cripple a caregiver's or parent's ability to cope with the COVID-19 pandemic.

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Current COVID/ASD Resources

- Handle the Autism Spectrum Condition during Coronavirus (COVID-19) *Stay at Home* Period: Ten Tips for Helping Parents and Caregivers of Young Children. <https://doi.org/10.3390/brainsci10040207>
- Autism and COVID-19: A Case Series in a Neurodevelopmental Unit <https://doi.org/10.3390/jcm9092937>
- Could Autism Spectrum Disorders Be a Risk Factor for COVID-19? <https://doi.org/10.1016/j.mehy.2020.109899>
- An Expert Discussion on Autism in the COVID-19 Pandemic <https://doi.org/10.1089/aut.2020.29013.sjc>
- Neuropsychology of COVID-19: Anticipated Cognitive and Mental Health Outcomes <https://doi.org/10.1037/neu0000731>

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What Benefits Do We Derive From Socialization?



- Support
- Survival
- Affiliation
- Pleasure
- Procreation
- Knowledge
- Friendship

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The social development of children with ASD is qualitatively different from other children.



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In normal developing children perceptual, affective and neuroregulatory mechanisms predispose young infants to engage in social interaction from very early on in their lives. They must in order to maximize chances of survival.



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Socialization Begins Early:
Reina and Her Mother



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When we look at babies
our brain responds
uniquely.



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Adrian, my seatmate
on a recent flight.



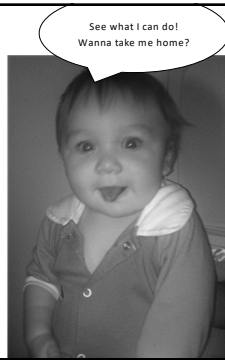
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Adrian, my seatmate
on a recent flight.



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Adrian, my seatmate
on a recent flight.



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Pointing

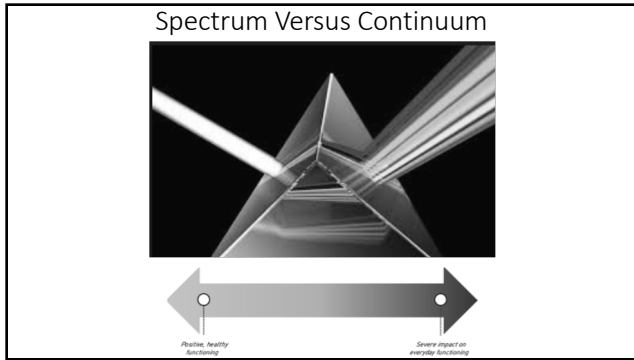


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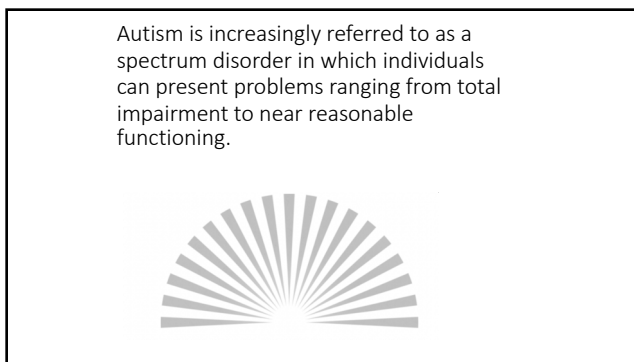
Observing and Imitating



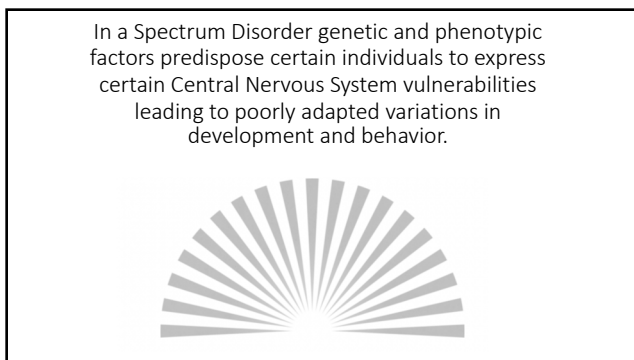
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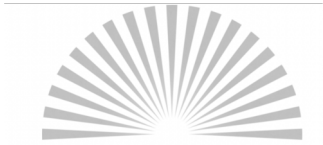


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In a Spectrum Disorder all symptoms are considered relevant to the extent they present in each disorder. Thus a symptom is not exclusive to a disorder.



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The form that a Spectrum Disorder assumes is determined by its composite symptoms. These symptoms often have complex relationships.



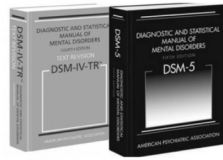
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What Do We Mean By the Term “High Functioning?”

- Level of Intellect?
- Absence of co-morbidities?
- Absence of learning Disabilities?
- Mild symptom severity of ASD?
- Mild impairment due to ASD?
- Adequate adaptive behavior despite ASD?
- Level of support required?

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The DSM 5 Criteria



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DSM 5

- Combined social and communication categories.
- Tightened required criteria reducing the number of symptom combinations leading to a diagnosis.
- Omitted Retts and Childhood Disintegrative Disorder.
- Clarified co-morbidity issues
- Eliminated PDD NOS and Aspergers in favor of Autism Spectrum Disorder.

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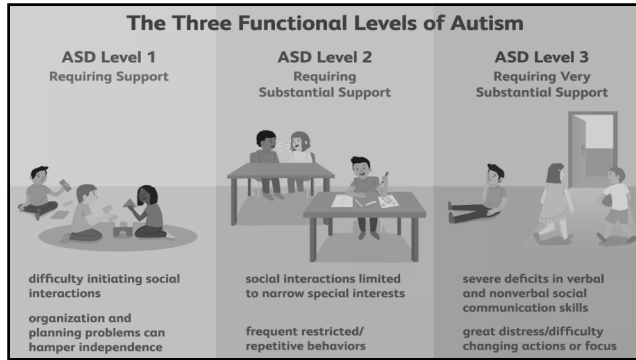
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DSM 5

- Five criteria.
- Seven sets of symptoms in the first two criteria – Social/Communication and Restrictive/Repetitive behaviors, interests or activities.
- All three symptoms are required to meet the first criteria (although a typo omits this).
- Two out of four are needed for the second criteria.
- Some symptoms have been combined. Sensory sensitivity has been added.

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DSM 5 Social (Pragmatic) Communication Disorder Criteria A

Persistent difficulties in the social use of verbal and nonverbal communication as manifested by all of the following:

- Deficits in using communication for social purposes, such as greeting and sharing information, in a manner that is appropriate for the social context.
- Impairment of the ability to change communication to match context or the needs of the listener, such as speaking differently in a classroom than on a playground, talking differently to a child than to an adult, and avoiding use of overly formal language.
- Difficulties following rules for conversation and storytelling, such as taking turns in conversation, rephrasing when misunderstood, and knowing how to use verbal and nonverbal signals to regulate interaction.
- Difficulties understanding what is not explicitly stated (e.g., making inferences) and non-literal or ambiguous meanings of language (e.g., idioms, humor, metaphors, multiple meanings that depend on the context for interpretation).

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DSM 5 Social (Pragmatic) Communication Disorder Criteria B, C, and D

B. The deficits result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance, individually or in combination.

C. The onset of the symptoms is in the early developmental period (but deficits may not become fully manifest until social communication demands exceed limited capacities).

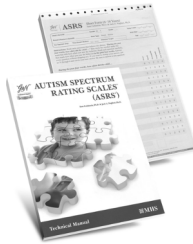
D. The symptoms are not attributable to another medical or neurological condition or to low abilities in the domains of word structure and grammar, and are not better explained by autism spectrum disorder, intellectual disability (intellectual developmental disorder), global developmental delay, or another mental disorder.

NO DISCUSSION OF THIS DIAGNOSIS IN ADULTS!

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A Statistically Derived Model of ASD



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Exploratory Factor Analysis for 2-5 Years

- A two-factor solution was best for parent and teacher raters
 - **Factor I:** included primarily items related to both socialization and communication (e.g., keep a conversation going, understand how someone else felt) - **Social/Communication**
 - **Factor II:** included items related to behavioral rigidity (e.g., insist on doing things the same way each time), stereotypical behaviors (e.g., flap his/her hands when excited), and overreactions to sensory stimulation (e.g., overreact to common smells) - **Unusual Behaviors**

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Exploratory Factor Analysis for 6-18 Years

- A three-factor solution was best for both parent and teachers versions of the ASRS
 - **Factor I:** included primarily items related to both socialization and communication - **Social/Communication**
 - **Factor II:** included items related to behavioral rigidity, stereotypical behaviors and overreactions to sensory stimuli - **Unusual Behaviors**
 - **Factor III:** included items related to attention problems (e.g., become distracted), impulsivity (e.g., have problems waiting his/her turn), and compliance (e.g., get into trouble with adults, argue and fight with other children) - **Self-Regulation**

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Factor Consistency

- The consistency of the ASRS scale structure across several demographic groups (gender, age group, race, and clinical status) was studied
- The factor loadings for the groups were correlated using the coefficient of congruence
 - results revealed a very high degree of consistency between all groups
 - indicating that the factor structure of the forms generalized across the demographic groups

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Current View of ASD In ASRS

- Based on the factor analysis, we suggest that ASD is best described as having two clusters of behaviors for children ages 2-5 and three for those aged 6 to 18 years of age.
 - Ages 2 – 5 years
 - Social / Communication
 - Unusual Behaviors
 - Ages 6 – 18 years
 - Social / Communication
 - Unusual Behaviors
 - Self-Regulation
- This is the organizational form of the ASRS.



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DSM IV TR Autism and Asperger Syndrome

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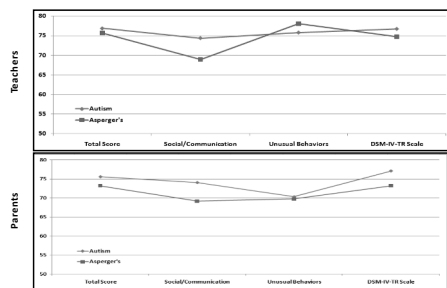
DSM IV TR Autism vs Asperger

- ASRS means for ages 2-5 years were typically somewhat higher for children with Autism than those with Asperger's syndrome
 - Exception being Unusual Behaviors where the two groups were similar
- ASRS means for ages 6-18 years were consistently higher for children with Autism than those with Asperger's syndrome

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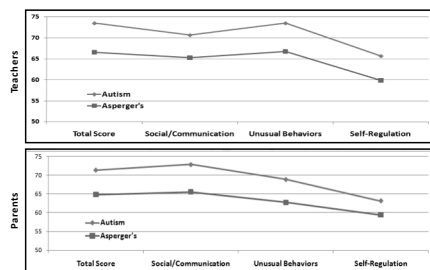
DSM IV TR Autism vs Asperger 2-5 Years



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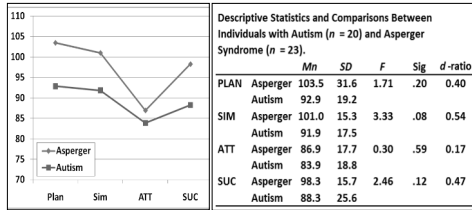
DSM IV TR Autism vs Asperger 6-18 Years



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DSM IV TR Autism vs Asperger 6-18 Years



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ASRS 2 Adult Data collection

- Pilot Data collection for the ASRS 2 took place in 2016-2018
- Data was collected from General population and clinical samples
- Data was collected from:
 - Individuals 19 years and older (For the Self-Report form)
 - The individual's spouse, parent or family member (For the Observer-Report Form)
- Data collection resulted in:

Form	General Population	ASD	Other Clinical
Self-Report	466	30	47
Observer-Report	452	22	26

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Other Clinical Groups Included in the Pilot

- Attention Deficit Hyperactivity Disorder (ADHD)
- Major Depressive Disorder (MDD)
- Generalized Anxiety Disorder (GAD)
- Bipolar Disorder
- Obsessive Compulsive Disorder (OCD)
- Adjustment Disorder

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Scales For the Adult ASRS 2 Pilot

- Atypical Language
- Attention
- Behavioral Rigidity
- Sensory Sensitivity
- Socialization
- Social/Emotional Reciprocity
- Stereotypy
- DSM 5 ASD

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Scale Reliability

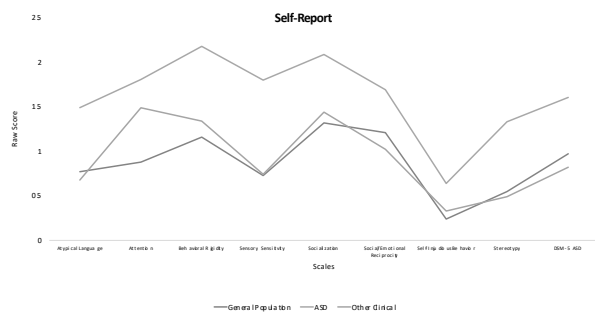
► **Summary of the Reliability of each scale as measured by Cronbach's alpha** (a measure of internal consistency, that is, how closely related a set of items are as a group).

► **Overall, the alpha values indicate high level of reliability for each scale.**

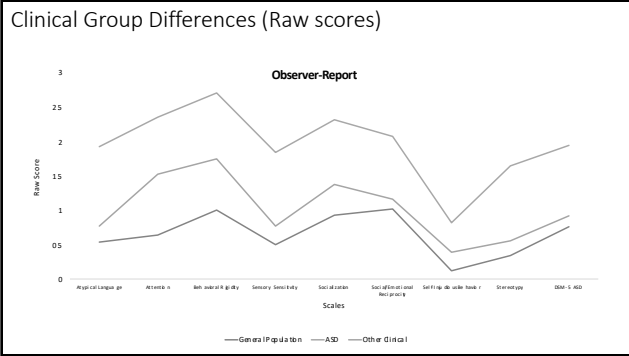
Scales	Self-Report		Observer-Report	
	General Population	Clinical	General Population	Clinical
Atypical Language	0.88	0.89	0.87	0.94
Attention	0.86	0.86	0.90	0.90
Behavioral Rigidity	0.90	0.94	0.93	0.91
Sensory Sensitivity	0.85	0.90	0.84	0.87
Socialization	0.85	0.92	0.86	0.90
Social/Emotional Reciprocity	0.90	0.93	0.91	0.94
Self-Injurious Behavior	0.86	0.79	0.90	0.82
Stereotypy	0.87	0.91	0.88	0.90
DSM-5 ASD	0.92	0.96	0.93	0.96

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Clinical Group Differences (Raw scores)



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Clinical Group Differences (Cohen's d)

Scales	Self-Report		Observer-Report	
	ASD vs. General Population	ASD vs. Other Clinical	ASD vs. General Population	ASD vs. Other Clinical
Atypical Language	1.21	1.36	2.46	1.38
Attention	1.66	0.49	2.93	1.24
Behavioral Rigidity	1.61	1.19	2.47	1.57
Sensory Sensitivity	1.74	1.60	2.39	1.91
Socialization	1.30	0.94	2.51	1.61
Social/Emotional Reciprocity	0.86	1.23	1.80	1.53
Self-Injurious Behavior	0.88	0.62	1.76	0.70
Stereotypy	1.34	1.31	2.62	1.62
DSM-5 ASD	1.49	1.70	2.67	2.36

$d = 0.2-0.4$ Small
 $d = 0.5-0.7$ Med
 $d > 0.8$ Large

For the most part, Large d-values are observed across comparisons, indicating the ability of the assessment to identify individuals with ASD

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We are collecting data for additional new scales for the Adult ASRS 2 including camouflage or coping behaviors and anxiety.

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Evaluating Compensatory Behaviors: Social Camouflage in ASD

- Social camouflaging is defined as the use of strategies by autistic people to minimize the challenges of autism during social situations (Lai et al. 2011).
- Social camouflage has recently been a focus of researchers, but has been recognized by clinicians as coping strategies. It is now recommended that clinicians evaluate masking or coping behaviors when assessing autism in the newly released 11th edition of the International Classification of Diseases (Zeldovich 2017).
- This phenomena may be a widespread in ASD, especially in intellectually strong individuals.

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Social Camouflage in ASD

- Social camouflaging reflects an explicit effort to 'mask' or 'compensate' for autistic characteristics; and to use conscious techniques to minimize an autistic behavioral presentation (Hull et al. 2017; Lai et al. 2017; Livingston and Happé 2017).
- Examples of camouflaging behaviors described in the current literature include as example: forcing oneself to make eye contact during a social interaction; pretending that one is doing so by looking at the space between someone's eyes or at the tip of their nose; or using working memory strategies to develop a list of appropriate topics for conversation.

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Social Camouflage in ASD: Unanswered Questions

- Do autistic females camouflage more than males, and does this partly account for gender disparities in the rate and timing of diagnosis (Begeer et al. 2013; Loomes et al. 2017)?
- What is the relationship between camouflaging and mental health outcomes?
- How should camouflaging be accurately measured? Is a discrepancy method sufficient to assess the the gap between how a person with ASD mediates their internal autistic status and their overt behavior (external autistic presentation)?

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Measuring Social Camouflage

Livingston and Happé (2017) suggest that camouflaging is a component of social compensation.

The “processes contributing to improved behavioral presentation of a neurodevelopmental disorder such as ASD, despite persisting core deficit(s) at cognitive and/or neurobiological levels”.

As such they should be measured at the behavioral, cognitive, and even neurobiological levels.

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Performance on tests of cognition relevant to autism, or scores on self-reported measures of autism traits can only serve as a proxy measure of internal autistic status.

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Measuring Social Camouflage

- An alternative to the discrepancy approaches is one based on observational recognition of camouflaging; measuring the specific behaviors and experiences which represent camouflaging.
- Observational/reflective methods circumvent the limitation of being unable to measure an individual's internal autistic state. Camouflaging can be measured consistently and compared between individuals, and behaviors can be identified regardless of how successful they may be.
- This approach to camouflaging has the advantage of allowing for variation in camouflaging behaviors and their success. Techniques learned and used in some situations may not be successful in others.
- An individual's overall camouflaging skill may partly depend on their flexibility/generalizable capacity to adapt to different situations.

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Measuring Social Camouflage

- Both the discrepancy and observational/reflective approaches offer ways to define and measure camouflaging in ASD.
- All the methods used or suggested have their own strengths and weaknesses, thus combining multiple methods may allow for greater accuracy in measuring and identifying a complex phenomenon such as camouflaging.

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Camouflaging Autistic Traits Questionnaire (CAT-Q)

- Compensation
- Masking
- Assimilation

Laura Hull, William Mandy, Meng-Chuan Lai, Simon Baron-Cohen, Carrie Allison, Paula Smith & K. V. Petrides. Development and Validation of the Camouflaging Autistic Traits Questionnaire (CAT-Q)
Journal of Autism and Developmental Disorders. doi.org/10.1007/s10803-018-3792-6

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Social Camouflage: Compensation

- Copy others facial expression or body language.
- Learn social clues from media.
- Watch others to understand social skills.
- Repeat others phrasing and tone.
- Use script in social situations.
- Explicitly research the rules of social engagement.

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Social Camouflage: Masking

- Monitor face and body to appear relaxed.
- Adjust face and body to appear relaxed.
- Monitor face and body to appear interested in others.
- Adjust face and body to appear interested in others.
- Pressured to make eye contact.
- Think about impression made on others.
- Aware of impression made on others.

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Social Camouflage: Assimilation

- Feel a need to put on an act.
- Conversation with others is not natural.
- Avoid interacting with others in social situations.
- "Performing" e.g. not being oneself in social situations
- Force self to interact with others.
- Pretending to be normal.
- Need support of others to socialize.
- Cannot be oneself while socializing.

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CAT-Q Sample Items

- When I am interacting with someone, I deliberately copy their body language or facial expressions.
- I learn how people use their bodies and faces to interact by watching television or films, or by reading fiction.
- I have tried to improve my understanding of social skills by watching other people.
- I will repeat phrases that I have heard others say in the exact same way that I first heard them.
- I practice my facial expressions and body language to make sure they look natural.
- I have spent time learning social skills from television shows and films, and try to use these in my interactions.

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CAT-Q Sample Items

- In my own social interactions, I use behaviors that I have learned from watching other people interacting.
- I have researched the rules of social interactions to improve my own social skills.
- I have developed a script to follow in social situations.
- I monitor my body language or facial expressions so that I appear relaxed.
- I adjust my body language or facial expressions so that I appear relaxed.
- I monitor my body language or facial expressions so that I appear interested by the person I am interacting with.

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CAT-Q Sample items

- I adjust my body language or facial expressions so that I appear interested by the person I am interacting with.
- I don't feel the need to make eye contact with other people if I don't want to (Reversed scored).
- In social interactions, I do not pay attention to what my face or body are doing (Reversed scored).
- I always think about the impression I make on other people.
- I am always aware of the impression I make on other people.

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CAT-Q Sample Items

- I rarely feel the need to put on an act in order to get through a social situation (Reverse Scored).
- When talking to other people, I feel like the conversation flows naturally (Reverse Scored).
- When in social situations, I try to find ways to avoid interacting with others.
- In social situations, I feel like I'm "performing" rather than being myself.
- I have to force myself to interact with people when I am in social situations.

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Students that have a DSM or ICD diagnosis are not automatically eligible for special education services, according to the Individuals with Disabilities Education Improvement Act (IDEIA).

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Educational eligibility and subsequent services are determined by conducting assessments and testing performed by a school's multidisciplinary team and not that of medical diagnostic tests.

These can include observations, history, developmental information, behavior information and a documented prevalence over a period of time.

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Federal Guidelines For Autism Eligibility

(a) *General.*

(1) **Child with a disability** means a child evaluated in accordance with §§ 300.304 through 300.311 as having mental retardation, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance (referred to in this part as "emotional disturbance"), an orthopedic impairment, autism, traumatic brain injury, an other health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services.

(2)

(i) Subject to paragraph (a)(2)(i) of this section, if it is determined, through an appropriate evaluation under §§ 300.304 through 300.311, that a child has one of the disabilities identified in paragraph (a)(1) of this section, but only needs a related service and not special education, the child is not a child with a disability under this part.

(ii) If, consistent with § 300.39(a)(2), the related service required by the child is considered special education rather than a related service under State standards, the child would be determined to be a child with a disability under paragraph (a)(1) of this section.

(b) **Children aged three through nine experiencing developmental delays.** *Child with a disability* for children aged three through nine (or any subset of that age range, including ages three through five), may, subject to the conditions described in § 300.111(d), include a child -

(1) Who is experiencing developmental delays, as defined by the State and as measured by appropriate diagnostic instruments and procedures, in one or more of the following areas: Physical development, cognitive development, communication development, social or emotional development, or adaptive development; and

(2) Who, by reason thereof, needs special education and related services.

(Authority: 20 U.S.C. 1401(3); 1401(30))
[71 FR 46753, Aug. 14, 2006, as amended at 72 FR 61306, Oct. 30, 2007]

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Federal Guidelines For Autism Eligibility

(i) **Autism** means a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.

(ii) Autism does not apply if a child's educational performance is adversely affected primarily because the child has an emotional disturbance, as defined in paragraph (c)(4) of this section.

(iii) A child who manifests the characteristics of autism after age three could be identified as having autism if the criteria in paragraph (c)(1)(i) of this section are satisfied.

(Authority: 20 U.S.C. 1401(3); 1401(30))
[71 FR 46753, Aug. 14, 2006, as amended at 72 FR 61306, Oct. 30, 2007]

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Determining Eligibility for Autism Under IDEIA

- Administering a measure of neuropsychological functioning examining planning, sequencing, critical thinking and behaviors related to executive functioning.
- Administering a basic academic battery.
- Administering observational narrow band questionnaires to Teachers (and Parents?).
- Interviewing and observing the student.
- With verbal students, administering self-report measures assessing self-concept, resilience, worry, camouflage behaviors and unhappiness.
- With teens, administering a brief personality measure specifically focused on the development of schizoid personality traits.

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Determining Eligibility for Autism Under IDEIA

- Many school districts now require the administration of quasi standardized, interactive tools to determine Autism eligibility.
- However, based on these IDEIA criteria and the fact that eligibility determination is *not* the equivalent of a diagnosis, is the administration of such instruments needed?
- Do they add to the accuracy of eligibility determination? Do they add to IEP goal setting?
- It's undetermined at this time. Such tools may provide a practical and convenient framework to interview the student, but are they a necessity as mandated by some school districts?

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Considering Co-morbidity

- Considerable overlap exists between autism spectrum disorder (ASD) and mental health disorders.
- High rates of overlap are significant because they affect the nature and type of problems displayed by persons with ASD and how the disorders are assessed.
- ADHD, anxiety disorders and depression are among the disorders most commonly associated with ASD.
- Symptom presentation is similar whether ASD occurs alone or with other conditions.
- Multiple assessments after initial diagnosis of ASD are frequently necessary.
- ASD can be diagnosed very early, while symptoms of other disorders emerge at different points in human development.

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Educational Care and Treatment

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Educational Care and Treatment

- Despite strong claims no curative treatment has been vigorously studied.
- “In the absence of a definitive cure there are a thousand treatments” (Klin).
- Behavior modification, educational intervention and pharmacology have been studied.



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Prevalence and Treatment Patterns of Autism Spectrum Disorder in the United States, 2016

Of the 43 032 included participants, 22 072 (51.3%) were male, and the mean (SD) age was 10.7 (4.4) years. The weighted prevalence of ever-diagnosed ASD and current ASD were 2.79% (95% CI, 2.46-3.12) and 2.50% (95% CI, 2.21-2.79), respectively. The state-level prevalence of ever-diagnosed ASD varied from 1.54% (95% CI, 0.60-2.48) in Texas to 4.88% (95% CI, 2.72-7.05) in Florida. Nationally, about 70% of children with current ASD (70.5%; 95% CI, 65.1-75.8) were treated; 43.3% (95% CI, 37.4-49.2) received behavioral treatment only, 6.9% (95% CI, 3.7-10.1) received medication treatment only, and 20.3% (95% CI, 16.5-24.1) received both behavioral and medication treatments. The remaining 29.5% (95% CI, 24.2-34.9) of children with current ASD did not receive either behavioral or medication treatment.

doi:10.1001/jamapediatrics.2018.4208
December, 2018

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Integrating Treatment for Autism: Psychiatric Comorbidities and Comprehensive Treatment

Autism Spectrum Disorder (ASD) treatment becomes more convoluted when additional mental disorders are present. Comorbidities with ASD discussed in this review include attention deficit hyperactivity disorder (ADHD), anxiety, depression, disruptive mood dysregulation disorder (DMDD), psychotic and bipolar disorder. As these disorders typically affect multiple endophenotypes, from genetics to behavior, treatment must aim to target multiple layers, all the while minimizing side effects. Evidence-based therapies for ASD and comorbidities can range from psychosocial interventions to psychotropic medicines, with a varying degree of effectiveness for pairings of comorbidities and combinations of treatment. This review aims to create a brief overview of ASD comorbidities and discuss treatment options based on prior evidence-based research. Appropriate treatment is dependent on specific symptomatology, but evidence suggests that integrative-targeted treatment is typically more effective than stand-alone treatments.

<https://doi.org/10.17759/autdd.2021190105>
January 2021

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Interventions for improving employment outcomes for persons with Autism Spectrum Disorder: A systematic review update

The systematic review update identified three studies that evaluated employment outcomes for interventions for individuals with ASD. All three studies identified in the review suggest that vocation-focused programs may have positive impacts on the employment outcomes for individuals with ASD. Wehman et al. indicated that participants in Project SEARCH had higher employment rates than control participants at both 9-month and 1-year follow-up time points. Adding autism spectrum disorder supports, Project SEARCH in Wehman et al.'s study also demonstrated higher employment rates for treatment participants than control participants at postgraduation, 3-month follow-up, and 12-month follow-up. Smith et al. found that virtual reality job interview training was able to increase the number of job offers treatment participants received compared to control participants.

<https://doi.org/10.1002/ci2.1185>
July, 2021

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Employment programs and interventions targeting adults with autism spectrum disorder: A systematic review of the literature

In this systematic review, empirical peer-reviewed studies on employment programs, interventions and employment-related outcomes in individuals with autism spectrum disorder over 18 years with and without intellectual disability were identified and evaluated.

From 32,829 records identified in the initial search, 10 review and 50 empirical articles, comprising N = 58,134 individuals with autism spectrum disorder, were included in the review. Selected articles were organized into the following themes: employment experiences, employment as a primary outcome, development of workplace skills, non-employment-related outcomes, assessment instruments, employer-focused and economic impact. Empirical studies were limited by poor participant characterization, small sample size and/or a lack of randomization and use of appropriate controls. Poor conceptualization and measurement of outcomes significantly limited study quality and interpretation.

Future research will require a multidisciplinary and multifaceted approach to explore employment outcomes on the individual, the family system, co-workers and the employer, along with the impact of individual differences on outcome.

DOI: [10.1177/1362361316661855](https://doi.org/10.1177/1362361316661855), 2017

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Effects of an employer-based intervention on employment outcomes for youth with significant support needs due to Autism

The purpose of this study was to develop and investigate an employer-based 9-month intervention for high school youth with autism spectrum disorder to learn job skills and acquire employment. The intervention modified a program titled Project SEARCH and incorporated the use of applied behavior analysis to develop Project SEARCH plus Autism Spectrum Disorder Supports.

A randomized clinical trial compared the implementation of Project SEARCH plus Autism Spectrum Disorder Supports with high school special education services as usual. Participants were 49 high-school-aged individuals between the ages of 18 and 21 years diagnosed with an autism spectrum disorder and eligible for supported employment. Students also had to demonstrate independent self-care. At 3 months post-graduation, 90% of the treatment group acquired competitive, part-time employment earning US\$9.53–US\$10.66 per hour. Furthermore, 87% of those individuals maintained employment at 12 months post-graduation. The control group's employment outcomes were 6% acquiring employment by 3 months post-graduation and 12% acquiring employment by 12 months post-graduation. The positive employment outcomes generated by the treatment group provide evidence that youth with autism spectrum disorder can gain and maintain competitive employment.

doi: [10.1177/1362361316635826](https://doi.org/10.1177/1362361316635826). 2016

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<http://autismpdfc.fpg.unc.edu/content/briefs>

THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

It is authorized by statute to provide the use of evidence-based practice for children and adolescents with autism spectrum disorders.

EVIDENCE-BASED PRACTICES Briefs

Home
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Evidence-Based Practice Briefs
Evidence-based practice (EBP) briefs have been developed for at 24 identified evidence-based practices. Select a practice below to access the overview of the practice and downloadable PDF files for the EBP brief and the individual components. An evidence-based practice brief consists of the following core components:

EBP BRIEF COMPONENTS

Overview:
A general description of the practice and how it can be used with learners with autism spectrum disorders.
Step-by-Step Directions for Implementation:
Explicit step-by-step directions detailing exactly how to implement a practice, based on the research articles identified in the evidence base.
Implementation Checklist:
The implementation checklist offers a way to document the degree to which practitioners are following the step-by-step directions for implementation, which are based on the research articles identified in the evidence base.
Evidence Base:
The list of references that demonstrate that the practice is efficacious and meets the National Professional Development Center's criteria for being identified as an evidence-based practice.
Some practices include supplemental materials such as data collection sheets.

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<http://autismpdfc.fpg.unc.edu/content/briefs>

EVIDENCE-BASED PRACTICES FOR CHILDREN AND YOUTH WITH ASD

Antecedent-Based Interventions (ABI)
Computer-Aided Instruction
Differential Reinforcement
Discrete Trial Training
Extinction
Functional Behavior Assessment
Functional Communication Training
Naturalistic Intervention
Parent-Implemented Interventions
Peer-Mediated Instruction and Intervention
Picture Exchange Communication System (PECS)
Pivotal Response Training
Prompting
Reinforcement
Response Interruption/Redirection
Self-Management
Social Narratives
Social Skills Groups
Speech Generating Devices/VOCA
Structured Work Systems
Task Analysis
Time Delay
Video Modeling
Visual Supports

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Components of an Effective Treatment Program

- Structured behavioral treatment
- Parent involvement
- Treatment at an early age
- Intensive intervention
- Social skill development
- Coping and camouflage skill development
- Focus on generalization of skills
- Appropriate school setting
- Medication?

78

Components of an Educational Treatment Program

- There has been a shift away from treatment within highly controlled clinical settings to more natural contexts with caregivers and teachers acting as agents of change.
- This has allowed for collaborative treatment and opportunities to teach skills within the context of children's daily routines.
- This approach, known as family/school centered intervention, has also been demonstrated to lead to positive outcomes for ASD.
- Intensive community-based interventions based on PBS and positive support strategies have yielded positive outcomes with respect to enhanced language and communication as well as reductions in problem behavior.

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Components of an Effective Educational Program

- Determining the effectiveness of any educational program for students with ASD should be accomplished using methods that reflect specific behaviors as well as a larger conceptualizations of the disorder (e.g., social, communication, and atypical behavior problems). The key questions are:
 - How are these behaviors identified?
 - How are these behaviors measured?
 - How do these behaviors change with intervention?
 - What reference point or points will behavior change be calibrated?

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Medications

- Symptom focused medications: stimulants for attention, anti-depressants for mood, anti-psychotics for "oddities".
- Condition focused medications?



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Medication Use in Youth With Autism and Attention-Deficit/Hyperactivity Disorder

Two thirds of children ages 6 to 11 and three quarters of youth ages 12 to 17 with ASD and ADHD were taking medication, similar to children (73%) and youth with ADHD-only (70%) and more than children (13%) and youth with ASD-only (22%). There were no correlates of medication use that were consistent across group and medication type. Youth with ASD and ADHD were more likely to be taking medication for emotion, concentration, or behavior than youth with ADHD-only, and nearly half took ASD-specific medication.

<https://doi.org/10.1016/j.acap.2020.05.015>
March 2021

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A Drug May Treat ASD

30 JAMA Neurol 18 September 2021
Vol. 4, Issue 152, p. 1527a127
Sci. Transl. Med. DOI: 10.1126/scitranslmed.3004214

RESEARCH ARTICLE

FRAGILE X SYNDROME
Effects of STX209 (Arbaclofen) on Neurobehavioral Function in Children and Adults with Fragile X Syndrome: A Randomized, Controlled, Phase 2 Trial
Elizabeth M. Berry-Kravis¹, David Hess², Barbara Rathmel³, Peter Zarevics¹, Maryann Cherubini⁴, Karen Walton-Bowen⁵, Yi Mu⁶, Danh V. Nguyen⁶, Joseph Gonzalez-Heydrich⁵, Paul P. Wang^{1,7}, Randall L. Carpenter⁸, Mark P. Bear⁹ and Randi J. Hagerman⁷

¹ Author Affiliations

^{1,7}To whom correspondence should be addressed. E-mail: pwang@seasidetherapeutics.com

ABSTRACT

Research on animal models of fragile X syndrome suggests that STX209, a γ-aminobutyric acid type B (GABA_B) agonist, might improve neurobehavioral function in affected patients. We evaluated whether STX209 improves behavioral symptoms of fragile X syndrome in a randomized, double-blind, placebo-controlled crossover study in 63 subjects (55 male), ages 6 to 39 years, with a full mutation in the *FMR1* gene (>200 CGG triplet repeats). We found no difference from placebo on the primary endpoint, the Aberrant Behavior Checklist–Irritability (ABC–I) subscale. In the other analyses specified in the protocol, improvement was seen on the visual analog scale ratings of parent-nominated problem behaviors, with positive trends on multiple global measures. Post hoc analysis with the ABC–Social Avoidance scale, a newly validated scale for the assessment of fragile X syndrome, showed a significant beneficial treatment effect in the full study population. A post hoc subgroup of 27 subjects with more severe social impairment showed improvements on the Vineland-II Socialization raw score, on the ABC–Social Avoidance scale, and on all global measures. STX209 was well tolerated, with 8% incidences of sedation and of headache as the most frequent side effects. In this exploratory study, STX209 did not show a benefit on irritability in fragile X syndrome. Nonetheless, our results suggest that GABA_B agonists have potential to improve social function and behavior in patients with fragile X syndrome.

Copyright © 2012, American Association for the Advancement of Science

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Psychostimulants for ADHD-like symptoms in individuals with autism spectrum disorders.

Cortese S, Castellanos F, Morcillo C, Roux S, Bonnet-Brilhault F.

Institute for Pediatric Neuroscience, NYU Child Study Center, Langone Medical Center, 215 Lexington Avenue, 14th Floor, 10016 NY, USA. jamelle.cortese@gmail.com
Expert Rev Neurother. 2012 Apr;12(4):461-73.

We conducted a comprehensive review of studies assessing the efficacy and tolerability of psychostimulants for ADHD-like symptoms in individuals with autism spectrum disorder (encompassing autism disorder, Asperger's syndrome and pervasive developmental disorders not otherwise specified). PubMed, Ovid, EMBASE, Web of Science, ERIC and CNHAL were searched through 3 January 2012. From a pool of 348 potentially relevant references, 12 citations (11 studies) were retained as pertinent. Four of the included studies had a randomized controlled design. Most of the studies assessed methylphenidate immediate-release. Despite inter-study heterogeneity, taken together, the results of the selected reports suggest that psychostimulants may be effective for ADHD-like symptoms in autism spectrum disorder individuals. The most common adverse events reported in the included trials were appetite reduction, sleep-onset difficulties, irritability and emotional outbursts. We discuss future directions in the field, including the need for trials assessing more ecological outcomes and combined treatment strategies tailored to the specific individual features.

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Positive Effects of Methylphenidate on Social Communication and Self-Regulation in Children with Pervasive Developmental Disorders and Hyperactivity

Laudan B. Jahromi, Connie L. Kasari, James T. McCracken, Lisa S-Y. Lee, **et. al.**

Journal of Autism and Developmental Disorders, 2009)

85

Drugs that increase serotonin transmission may be useful in reducing interfering repetitive behaviors and aggression as well as improving social relatedness (few controlled studies).

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Promoting Social Behavior With Oxytocin in High-Functioning Autism Spectrum Disorders

- Published (2/10) online in the Proceedings of the National Academy of Sciences.
- Oxytocin is a hormone known to promote mother-infant bonds.
- A French research group investigated the behavioral effects of oxytocin in 13 subjects with autism.
- Under oxytocin, children with ASD responded more strongly to others and exhibited more appropriate social behavior and affect, suggesting a therapeutic potential of oxytocin through its action on a core dimension of autism.

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Oxytocin May Have Many Effects

Personality and Social Psychology Review

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Oxytocin and Human Social Behavior

Anna Campbell
Durham University, Durham, UK, a.c.campbell@durham.ac.uk

Abstract

Despite a general consensus that oxytocin (OT) has prosocial effects, there is no clear agreement on how these effects are achieved. Human research on OT is reviewed under three broad research initiatives: attachment and trust, social memory, and fear reduction. As an organizing perspective for scholars, current knowledge, a tentative model of the causes and effects of alterations in OT level is proposed. The model must remain provisional until conceptual and methodological problems are addressed that arise from a failure to distinguish between traits and states, offering research paradigms used in relation to OT as an independent versus dependent variable, and the possibility that OT effects depend on the initial emotional state of the individual. Social and personality psychologists have important roles to play in developing more rigorous and creative research designs.

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This Article

Published online before print April 26, 2010, DOI: 10.1177/1043986209355555
Free for Personal Use August 2010 vol. 14 no. 3 227-240

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Medication and Parent Training in Children With Pervasive Developmental Disorders and Serious Behavior Problems: Results From a Randomized Clinical Trial

MICHAEL G. AMAN, PH.D., CHRISTOPHER J. MCDOUGLE, M.D. et al.

Conclusions: Medication plus PT resulted in greater reduction of serious maladaptive behavior than Medication alone in children with PDDs, with a lower risperidone dose.

J. AM. ACAD. CHILD ADOLESC. PSYCHIATRY, 48:12, DECEMBER 2009.

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Comorbid ADHD and Anxiety Affect Social Skills Group Intervention Treatment Efficacy in Children With Autism Spectrum Disorders

Kevin M. Antshel, PhD, Carol Polacek, PhD, NP, Michele McMahon, CSW, Karen Dygert, NP, Laura Spencecye, MA, Lindsay Dygert, BS, Laura Miller, BA, Fatima Faisal

ABSTRACT: Objective: To assess the influence of psychiatric comorbidity on social skill treatment outcomes for children with autism spectrum disorders (ASDs). Methods: A community sample of 83 children (74 males, 9 females) with an ASD (mean age = 9.5 yr; SD = 1.2) and common comorbid disorders participated in 10-week social skills training groups. The first 5 weeks of the group focused on conversation skills and the second 5 weeks focused on social problem solving skills. A concurrent parent group was also included in the treatment. Social skills were assessed using the Social Skills Rating System. Ratings were completed by parents at pre- and posttreatment time periods. Results: Children with ASD and children with an ASD and comorbid anxiety disorder improved in their parent reported social skills. Children with ASD and comorbid attention deficit/hyperactivity disorder failed to improve. Conclusion: Psychiatric comorbidity affects social skill treatment gains in the ASD population.

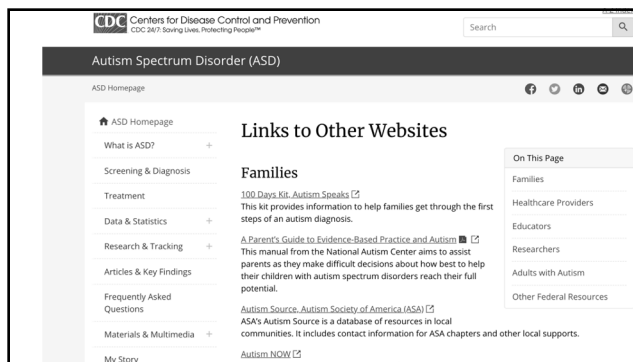
(J Dev Behav Pediatr 32:433-440, 2011) Index term: autism spectrum, social skills, ADHD.

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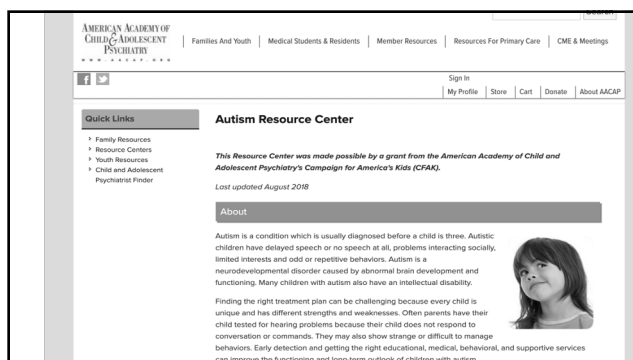
Some Possible Challenges to Counseling Youth With ASD

- Concrete thinkers
- Difficulty with humor
- Problems regulating affect
- Difficulty interpreting other's feelings
- Rule bound
- Diminished empathy
- Decreased desire to please others.

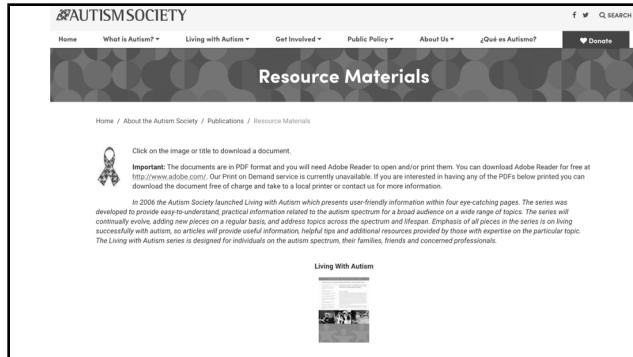
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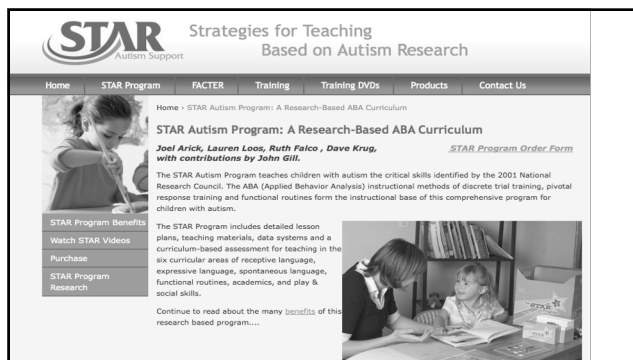
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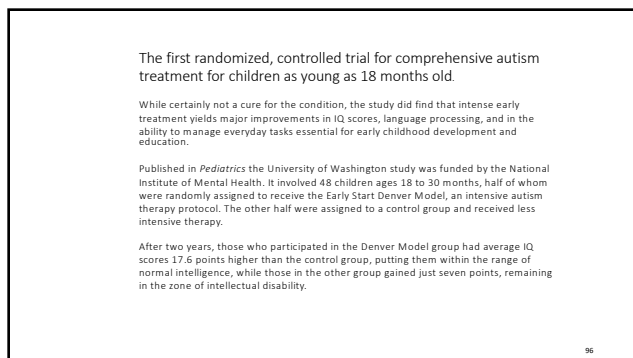
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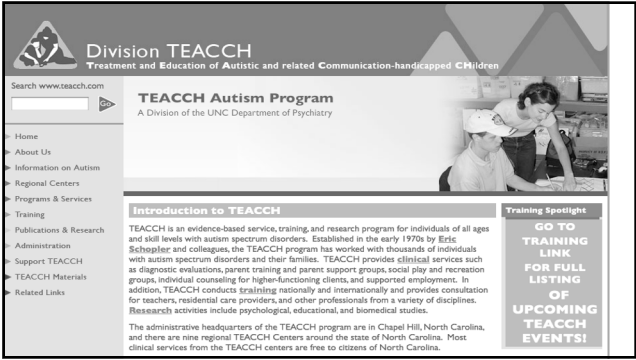
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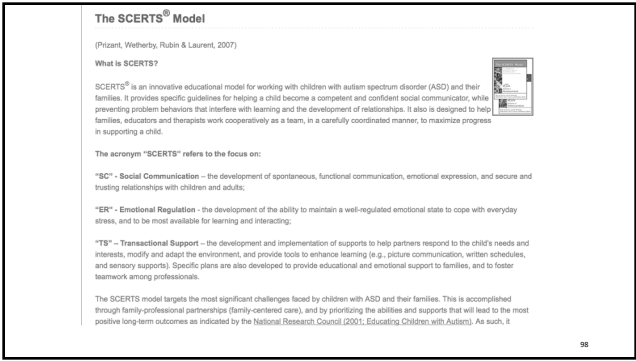
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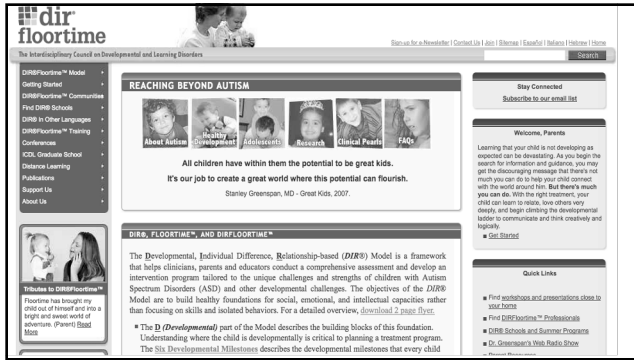
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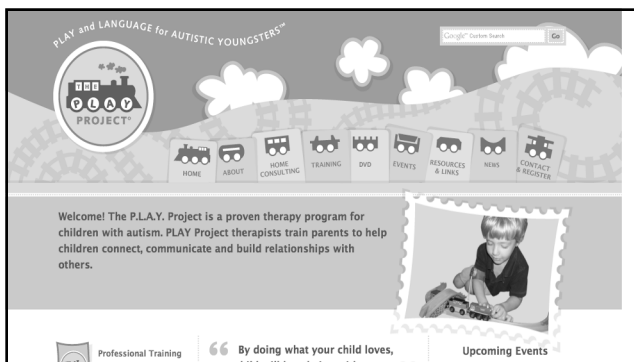
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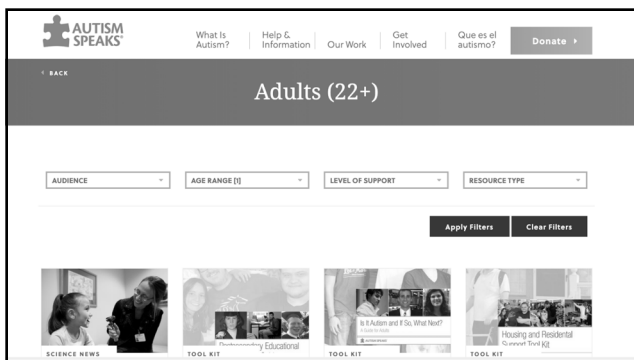
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Challenging Behaviors Tool Kit


Sometimes, people with autism display behaviors that are challenging to understand and address. The Challenging Behaviors Tool Kit will provide you with strategies and resources to address these behaviors and help support you during difficult situations.

The kit is broken into different sections. You may want to read the kit in its entirety or work through a section at a time:

- Why is Autism Associated with Aggressive and Challenging Behaviors?
- Why is it Important to Do Something about Challenging Behaviors?
- Who Can Help? What is this Idea of a Team?
- What are the Things to Consider?
- What are the Positive Strategies for Supporting Behavior Implementation?
- What Might I Need to Know about Managing a Crisis Situation?
- What are Long Term Solutions and Where Can We Learn More?
- Challenging Behaviors Glossary

We sat down with 2 experts to help answer your frequently asked questions: Gary S. Mayerson, Founding Attorney at Mayerson and Associates, and Nicole Weidenbaum, Executive Director of Nassau Suffolk Services for Autism.

Check out the videos below to hear what they had to say!




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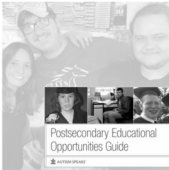
Postsecondary Educational Opportunities Guide

Deciding what to do after high school can be a difficult process. This guide will help you and your family explore the various options available to you.

The guide provides a closer look at four-year universities, community colleges, vocational/technical school, life skills programs and more. The information will help you find the program that is right for you.

The Postsecondary Educational Opportunities Guide is broken up into the following sections:

- Introduction
- Preparing for Postsecondary Education
- Types of Postsecondary Education Programs
- Obtaining Services and Asking for Accommodations
- Life on Campus
- Learning to Live Independently: A Personal Perspective
- Peer-to-Peer Advice
- Advice for Parents
- Alternative Learning for People With Autism: A Personal Perspective
- A Retrospective on Postsecondary Educational Opportunities
- Resources




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Employment Tool Kit

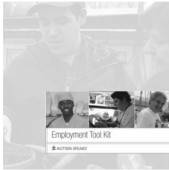
Autism Speaks would like to help you find the right job by providing you with tools and resources, including our Employment Tool Kit.

We have written this kit to help you research, find and keep employment. We compiled job-related stories, tips and information from a collaboration of people, including adults with autism.

Although this guide is written for you, we know that it will also be helpful for family members, service providers, business leaders and anyone who is helping someone with autism find and keep a job.

The Employment Tool Kit is divided into the following sections:

- Introduction
- Self-Advocacy
- What Job is Right For You?
- Benefits and Funding
- Employment Models: What Option is Best For You?
- Your Job Search
- Transportation Options
- Resumes, Cover Letters and Applications
- The Job Interview
- Accommodations and Disclosure
- Soft Skills: Understanding the Social Elements of Your Job
- Success Stories and Lessons Learned

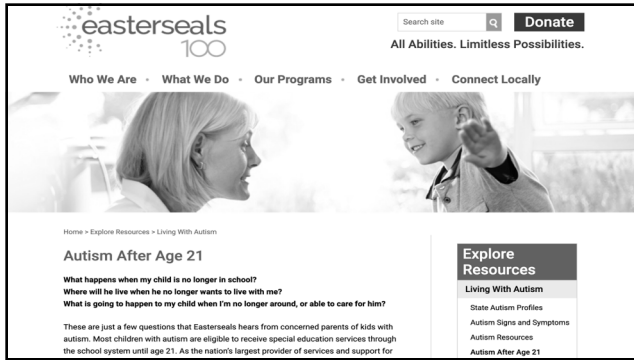


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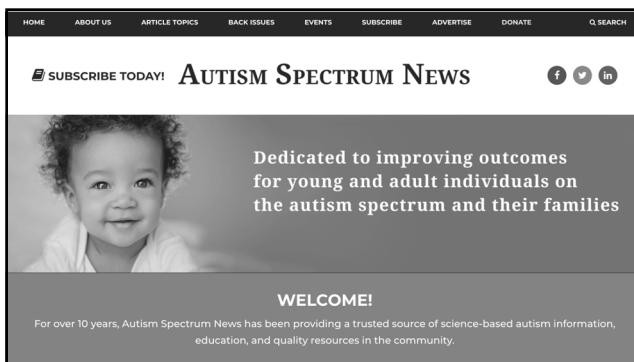
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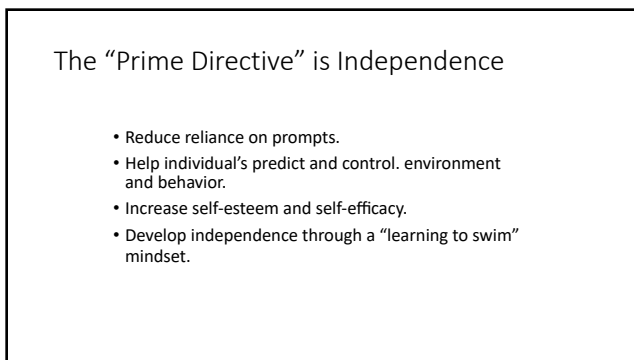
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Theater as a Medium to Develop Social Skills

- Theater arts offer an opportunity for individuals with ASD to venture into the community in a win-win relationship.
- EPIC's performances help the general community better understand the nature of having ASD.
- At the same time, actors with ASD have the opportunity to interact in a medium that we believe will foster not only the development of self-esteem, but appropriate social interaction—the latter very clearly being the primary hurdle to successful adult transition for those with ASD.
- EPIC hopes to quantify our initial experiences of the benefits of theater for those with ASD through a long-term, qualitative study measuring the associative effects of theater arts, training on social skills, sense of purpose and independence in daily life activities.

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EPIC Players



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Treatment Evaluation with ASRS

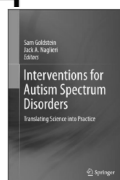
Chapter 3 Evaluation of Treatment Effectiveness in the Field of Autism

Psychometric Considerations and an Illustration

Jack A. Naglieri and Sam Goldstein

Introduction

Evidence-based treatment and the assessment of treatment effectiveness are dependent upon the collection of data during the evaluation process providing information about symptoms, impairment and abilities. Such an assessment allows for a seamless transition from assessment and diagnosis to effective treatment. Evaluating the effectiveness of a treatment strategy or program is important for interventions designed to address symptoms and/or to improve behavior in individuals with disorder. The



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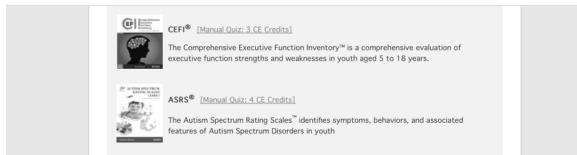
Conclusions



- The determination of eligibility and the integration of specialized educational programs as part of comprehensive treatment and transition for students with ASD continues to evolve.
- It is still the case that there is at times a confusing relationship between clinical/medical diagnosis and care, and eligibility determination and specialized educational processes.
- Over the last twenty years school psychologists have become very knowledgeable about the evaluation and treatment of ASD. The process by which eligibility as Autism under IDEIA is determined continues to vary significantly between states and school districts.
- We are just beginning to understand the skills, behavior and mindset of students with ASD making a successful transition into adult life.
- We need to adopt a reasoned and reasonable set of guidelines for school psychologists charged not only with determining eligibility under IDEIA for a student to be served as OHI/Autism but also gather statistically viable information about a student's cognitive, neuropsychological, social, emotional, academic and behavioral presentation and competence so as to seamlessly integrate assessment data into measurable IEP goals and transition plans.

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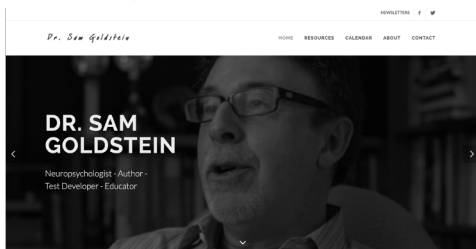
Continuing Education



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Devin Teichert
 Song of Myself
 December 16, 2008


Were They but There at Night

There is a bolder field where every stone
 Is a glazed, glittering gem, like stars fallen from the sky
 All except one, a plain grey rock alone in the center
 Feeling excluded and shunned

People come, tourists, painters, photographers, collectors
 To view each shining boulder, a pleasure to the beholder
 Ooh! Ahh! Look at this one! Come quick!
 Pedestals bulge with fingernails and paint once run dry

But the grey rock remains ignored
 An ugly blotch on a sweeping mural

The sun sets, everyone leaves
 And they miss the outcrop of the field
 For when night falls, the grey rock in the center
 It glows in the dark



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Questions?


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TEDx: <https://www.youtube.com/watch?v=isfw8JJ-eWM>

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