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Comprehensive School-Based Assessment of Autism with the ASRS:

Guiding Educational Support from Pre-School To Transition for Autistic Students



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Support. Assess. Empower. Transition.

SALT LAKE CITY, UTAH

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Relevant Disclosure

Transparency supports trust, learning, and better care.



Sam Goldstein, Ph.D.
Assistant Clinical Professor
School of Medicine

- Co-author of the *Autism Spectrum Rating Scales* (MHS, 2009).
- Co-author of the *Autism Spectrum Rating Scales – Adult* (MHS, 2025).
- Co-author of *Assessment of Autism Spectrum Disorders* text (Guilford, 2009).
- 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.
- AI note-taking is fine.



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Thanks for being here!

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Lorna Wing: Godmother of the Autism Spectrum

A visionary whose work transformed our understanding of autism and expanded possibilities for generations.

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Lorna Wing with Sam

A lifelong advocate, mentor, and friend.

"Autism is a spectrum condition, not a single entity, and people with autism can lead fulfilling lives with the right support."

— Lorna Wing



Broader understanding



Greater acceptance



Expanded opportunities



Sam with his parents (1975)

A family who believed in his potential.



A Lasting Legacy

Lorna Wing's pioneering work in defining the autism spectrum, particularly through the "triad of impairments," and her emphasis on the full range of abilities, continues to influence research, clinical practice, education, and policy worldwide. She opened the door to a more inclusive and hopeful future for autistic individuals.

*Greater understanding.
Brighter futures.*

EVIDENCE • COMPASSION • OPPORTUNITY • BRIGHTER FUTURES

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Presentation Goals

By the conclusion of this presentation, participants will be able to:

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1



Describe

a developmental and resilience-based framework for transition to adulthood for autistic adolescents, integrating self-regulation, executive functioning, strengths, adaptive functioning, and environmental supports.

2



Identify

key predictors and barriers associated with successful adult transition, including self-determination, emotional regulation, executive functioning, adaptive skills, relationships, employment/education experiences, and mental health.

3



Apply

a strengths-based, ecological assessment process to identify the mismatch between an adolescent's competencies, environmental demands, and available supports—and translate assessment findings into meaningful transition goals.

4



Develop

evidence-informed interventions and supports that progressively build self-management, self-advocacy, problem solving, resilience, and real-world competence through a *scaffold* → *practice* → *generalize* → *fade* approach.

5



Use

collaborative transition planning with students, families, educators, and community providers to shift the goal from simply achieving "independence" toward *self-determination, belonging, meaningful participation, resilience, and quality of adult life.*

*From today's knowledge
to brighter tomorrows.*

4

From Adolescence to Adulthood in Autism

A Resilience-Based Developmental Framework
for Building Adult Competence, Agency, and Quality of Life

Sam Goldstein, Ph.D.

ASSESS • SUPPORT • EMPOWER • THRIVE



Core premise:

Adult success is not defined by becoming “less autistic.” It is reflected in the capacity to understand oneself, regulate behavior and emotion, solve problems, develop meaningful relationships, participate in community, and pursue personally valued adult roles.

EVIDENCE • COMPASSION • REAL-WORLD IMPACT



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More
pathways.
Brighter
tomorrows.

5

What Benefits Do We Derive From Socialization?



Support

Emotional and practical help from others



Survival

Increased safety and resilience



Affiliation

A sense of belonging



Pleasure

Enjoyment and positive experiences



Procreation

Opportunities for partnership and family



Knowledge

Learning from others



Friendship

Meaningful, lasting relationships

Connection
enriches lives.

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Kanner's Description (1943)

Early observations that laid the foundation for the modern study of autism.

Key Clinical Features

From Kanner's original description

-  Inability to relate to others
-  Disinterest in parents and people
-  Language difficulties
-  Fascination with inanimate objects
-  Resistance to change in routine
-  Purposeless repetitive movements
-  A wide range of cognitive skills
-  An innate inability for emotional contact

Broader Contributions

A pioneering career in child psychiatry

-  His seminal 1943 paper, "Autistic Disturbances of Affective Contact", together with the work of Hans Asperger, forms the basis of the modern study of autism.
-  First physician in the world to be identified as a child psychiatrist, and founder of the first child psychiatry department at Johns Hopkins University Hospital.
-  Wrote *Child Psychiatry* (1935), the first English language textbook to focus on the psychiatric problems of children.



Leo Kanner, M.D.

Introduced the label *early infantile autism* in 1943 in his paper:

Kanner, L. (1943). *Autistic disturbances of affective contact*. *Nervous Child*, 2, 217-250.



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Building understanding. Improving lives.

7

Background

Understanding autism to build a more inclusive and supportive future.

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What is ASD?

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition marked by deficits in social interaction, communication, and repetitive behaviors.



Complex Etiology

The etiology of ASD is complex, involving both genetic and environmental factors.



Evolving Interventions

Recent studies emphasize the need for individualized and technology-driven interventions to improve quality of life and functional outcomes (Qin et al., 2024).



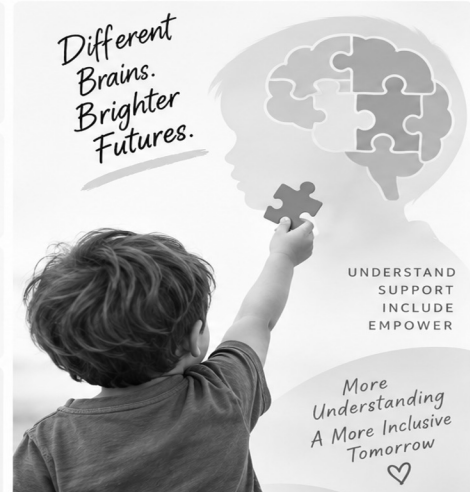
Ongoing Challenges

Despite progress in understanding ASD, challenges remain in diagnosis and treatment, mainly due to the disorder's heterogeneity and co-occurring conditions, which complicate the diagnostic process (Hus & Segal, 2021).



Knowledge today. A more inclusive tomorrow.

By deepening our understanding of ASD, we can advance earlier identification, personalized support, and better outcomes for all individuals.



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Early Social Development: Different Pathways, Shared Possibilities

Understanding differences helps us provide better support.

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Early social connection

From the very beginning, typical infants are predisposed to engage in social interaction.



Social learning through peers

Social interaction with peers helps build communication, play, and emotional skills in typical development.



Everyday opportunities

Daily life provides natural chances for social engagement and learning.



The social development of autistic children is **qualitatively different** from other children.



In normal children, perceptual, affective and neuroregulatory mechanisms predispose young infants to engage in social interaction **from very early on** in their lives.



Different pathways. Brighter futures.
Understanding today. Supporting tomorrow.



More Understanding



More Opportunities



A More Inclusive World

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DSM-5: Severity Levels for ASD

Severity levels reflect the amount of support an individual needs, based on social communication challenges and restricted, repetitive behaviors (RRBs).

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Level 3 Requiring Very Substantial Support



Significant challenges across multiple areas of functioning. Support is needed in nearly all contexts.

- **Severe deficits** in verbal & nonverbal communication.
- RRBs **markedly interfere** with functioning in **all contexts**.

Level 2 Requiring Substantial Support



Clear challenges in social communication and flexibility. Support is needed in many contexts.

- **Marked deficits** in verbal & nonverbal communication.
- Social impairments **apparent even with supports in place**.
- RRBs are **obvious & interfere** with functioning in **some contexts**.

Level 1 Requiring Support



Noticeable challenges in social communication and flexibility. Support is needed in some situations.

- Social communication deficits cause **noticeable impairments** without supports in place.
- RRBs **significantly interfere** in one or **more contexts**.
- Problems with **organization and planning** hamper independence.



Severity levels describe current support needs, not potential.
With appropriate supports, individuals with ASD can make meaningful progress at every level.

*Different Strengths.
Brighter Futures.*

10

Development of Play Skills in Autism

Play develops in a typical sequence, but in autism it is often delayed, prolonged, or qualitatively different.

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1 Sensory-Exploratory Play

Prolonged in ASD

- Mouthing/dropping/manipulating objects



Early play often involves sensory exploration of objects.

2 Cause-and-Effect Play

Perseverative in ASD

- Push-button & musical toys



Interest in cause-and-effect activities may be intense and repetitive.

3 Functional Play

Impaired in ASD

- Using a toy for intended purpose (e.g., "driving" a car; "talking" on a phone; building with blocks; feeding a baby)
- May show atypical play such as lining up, visual peering, or fixation on parts



Functional play skills are often reduced or atypical in autism.

4 Symbolic & Imaginary Play

Delayed/prolonged (females) or absent in ASD

- Using a toy for a novel purpose (e.g., using a block as a phone)
- Using miniature figurines as agents (e.g., "mommy" feeding the baby)



Symbolic and imaginary play is often delayed or absent, though some females may show prolonged development.



Play builds communication, imagination, relationships, and learning — and **all children can be supported** to develop play skills in ways that fit their strengths and interests.



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Broadening the Spectrum

Over time, the differences in key psychosocial abilities between individuals with and without ASD have become smaller, reflecting changes in diagnosis, assessment, and greater awareness.

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meta-analyses published between 1966 and 2024.



27,723

total subjects from around the world.

Five psychosocial dimensions:



Emotion recognition



Theory of mind



Cognitive flexibility



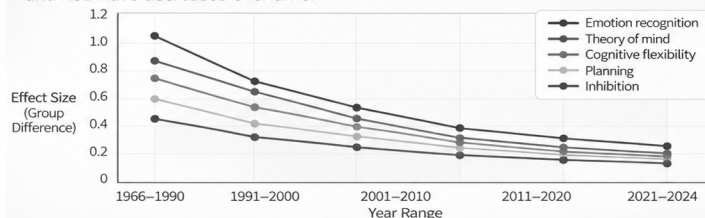
Planning



Inhibition

Group Differences Have Declined Since 2000

Across all five psychosocial dimensions, differences between typical development and ASD have decreased over time.



A global perspective

27,723 participants from diverse countries and cultures.

Why the differences may have declined



Differences in diagnostic criteria



Changes in assessment practices



Greater community awareness and acceptance



A broader understanding leads to a more inclusive view of autism.

As our knowledge and practices evolve, the spectrum becomes broader — and so do the opportunities for support, participation, and positive outcomes.



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Different
Paths.
Brighter Futures.

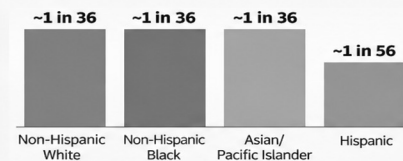
Racial & Ethnic Disparities in Autism

Important progress has been made, but differences in associated outcomes and access to timely evaluation remain.

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Prevalence Rates Are Becoming More Equal

Prevalence rates are now similar for non-Hispanic white, non-Hispanic Black, and Asian/Pacific Islander children, but remain lower for Hispanic children.



Prevalence rates are finally comparable across non-Hispanic white, non-Hispanic black, and Asian/Pacific Islander children, but continue to be lower for Hispanic children.

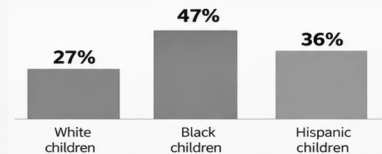
Boys Are More Likely to Be Identified with ASD



Boys were **4 times** more likely to be identified with ASD than girls.

Higher Rates of Intellectual Disability with ASD

Black and Hispanic children with ASD are more likely to have co-occurring intellectual disability (ID) compared to White children.



Compared to 27% of White children, 47% of Black children and 36% of Hispanic children are more likely to have intellectual disability with ASD.



Later Evaluation for Black Children

Black children with ASD are less likely to have a first evaluation by age 3 than White children.



While disparities have decreased over time, continued efforts are needed to ensure all children are identified early and have equitable access to services.



Equal Opportunity. Brighter Futures.

Every child, regardless of race, ethnicity, or background, deserves timely identification, support, and the chance to thrive.

*Different
Paths.
Brighter Futures.*

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Characteristic Cognitive Impairments to Evaluate in ASD

These cognitive abilities are often impacted in ASD and are important targets for assessment and intervention.

1



The ability to attribute mental states to oneself and others.

Understanding thoughts, beliefs, intentions, and perspectives (theory of mind).

2



The ability to display emotional reaction appropriate to another person's mental state (joint attention of emotion).

Recognizing and showing emotions that fit the context and the other person's perspective.

3



The ability to plan and attend to relevant details in the environment.

Directing attention, organizing behavior, and focusing on what is important.

4



The ability to understand the communicative content of gaze.

Interpreting where others are looking and what it means in a social context.

5



The ability to work cooperatively with others (joint attention of behavior).

Engaging in shared activities, coordinating attention and actions with others.

6



The ability to understand, comprehend, analyze, synthesize, evaluate and differentiate in particular social information in the environment.

Processing and making sense of complex social information to guide behavior.



Key Point: These cognitive abilities are foundational for social understanding and interaction and are important to consider when evaluating and supporting individuals with ASD.

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Autism Research in 2026

More science. More understanding. A more inclusive tomorrow.

Different Brains. Brighter Futures.

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RESEARCH TODAY BRIGHTER TOMORROW

1 2026 research emphasizes multidisciplinary progress

Advances are coming from multiple fields — including neuroscience, genetics, psychology, education, and data science — working together to better understand autism and improve support across the lifespan.

A multidisciplinary approach leads to deeper insights and more effective, holistic solutions.

2 Genetic and AI advances are reshaping autism care

Large-scale genetic studies (such as SPARK) are identifying distinct autism subtypes, while AI and machine learning are improving early detection, diagnosis, and personalized interventions.

- Identification of biologically distinct subtypes
- AI-powered screening and diagnosis tools
- Integration of genetic, behavioral, and clinical data
- More targeted and effective interventions

3 Stem cell and therapeutic claims remain experimental

Stem cell therapies and other biological treatments show promise in early research, but there is currently insufficient evidence to support routine use. These approaches remain experimental and should only be considered within rigorous clinical trials.

- Early-stage studies show potential
- More research is needed to confirm safety and effectiveness
- Should only be used in clinical trials
- Ongoing studies may open new possibilities in the future

4 Personalized education strategies gaining traction

Individualized, strengths-based educational approaches — supported by technology and data — are helping more autistic individuals reach their full potential. Tailored learning plans, sensory supports, and flexible environments are becoming more widely adopted.

- Focus on individual strengths and needs
- Use of technology and data-driven tools
- Greater access to tailored supports
- Improved academic, social, and life outcomes

Research Today. Brighter Tomorrows.
Continued collaboration, innovation, and inclusion can create a better future for autistic individuals and their families.

Different Brains. Brighter Futures.

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SPARK

Simons Foundation Powering Autism Research for Knowledge

People. Data. Discoveries. A brighter future for autism.

Real People. Real Data. Brighter Tomorrows.

SIMONS FOUNDATION | AUTISM RESEARCH INITIATIVE

SCIENCE PEOPLE POSSIBILITIES

Key Facts

- Launched by:** Simons Foundation Autism Research Initiative (SFARI)
- Goal:** Recruit and study 100,000+ individuals with autism and their family members.
- Current size (2025):** Over 300,000 participants, including genetic data (whole exome and genome sequencing), behavioral traits, developmental history, and family medical history.

Participants

Individuals diagnosed with ASD and their biological parents/siblings (triads).

Cohort

Over 5,000 children with autism from the SPARK study (ages 4–18), with analyses validated in an independent cohort.

Research Approach

A person-centered, generative mixture modeling methodology analyzing both phenotypic and genotypic data across 230+ traits per individual.

Key Finding

Four distinct subtypes of autism, each with unique clinical presentations, genetic profiles, and developmental trajectories.

Four Distinct Autism Subtypes Identified in SPARK (Litman et al., 2025)

Using data from over 5,000 children with autism, researchers from Princeton University and the Simons Foundation identified four clinically and biologically distinct subtypes, marking a significant advance toward precision diagnosis and personalized care.

1 Social and Behavioral Challenges ~37%

- Core autism traits
- Intact developmental milestones
- Frequent co-occurring conditions (e.g., ADHD, anxiety, or OCD)

Social differences don't define potential. Understanding does.

2 Mixed ASD with Developmental Delay ~19%

- Delayed early milestones
- Fewer psychiatric co-morbidities
- A mix of de novo and inherited genetic mutations

Different paths, shared potential.

3 Moderate Challenges ~34%

- Milder core ASD traits
- Typical developmental progress
- Minimal psychiatric co-morbidities

Unique strengths. Expanding opportunities.

4 Broadly Affected ~10%

- Severe core traits
- High levels of co-occurring conditions (e.g., intellectual disability, psychiatric issues)
- Greater burden of rare de novo mutations

Greater complexity calls for greater support.

More participants. Deeper understanding. Brighter futures.
SPARK is building one of the world's largest autism research cohorts to accelerate discoveries and improve lives.

Different Brains. Brighter Futures.

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Treatment for Autism (ASD)

Individualized care. Evidence-based approaches. Brighter futures.

Different Brains. Brighter Futures.

SUPPORT DEVELOP. EMPOWER BELONG

MORE POSSIBILITIES. BRIGHTER TOMORROWS

The treatment of Autism Spectrum Disorder (ASD) is highly individualized, with a range of behavioral, educational, and pharmacological interventions available. Early, comprehensive, and tailored support can improve communication, adaptive skills, emotional well-being, and overall quality of life.

Every individual has unique strengths. Every step forward matters.

1 Applied Behavior Analysis (ABA)

Well-established and effective

- ABA remains one of the most well-established therapies, particularly for improving children's intellectual functioning and adaptive behaviors (Eckes et al., 2023).
- Uses evidence-based behavioral techniques to increase desired skills and reduce challenging behaviors.
- Often delivered in one-on-one or small-group settings.

Learn Practice Grow

2 Cognitive Behavioral Therapy (CBT)

Helps with emotional and social challenges

- CBT has proven effective in managing anxiety, depression, and social difficulties in individuals with ASD (You et al., 2023).
- Teaches coping strategies, emotional regulation, and problem-solving skills.
- Can be adapted for different ages and cognitive levels.

Understand Build Skills Feel Better

3 Emerging Therapies

Promising new approaches

- Transcranial pulse stimulation shows potential for improving core symptoms of ASD (Cheung et al., 2023).
- Virtual reality (VR)-based interventions may help enhance social skills, communication, and real-life interaction (Dechsling et al., 2021).
- Other innovative approaches, including digital tools and brain stimulation techniques, are being explored and show early promise.

Transcranial Pulse Stimulation Virtual Reality Interventions

4 Additional Supports

A comprehensive, individualized plan

- Educational interventions (e.g., specialized learning programs, individualized education plans).
- Social skills training and speech/language therapy.
- Pharmacological treatments may help manage co-occurring conditions such as anxiety, attention difficulties, irritability, and sleep problems.
- Family support, parent training, and community resources are vital components of care.

Support Include Empower Thrive

Key Takeaways

- Individualized**: Treatment should be tailored to each person's unique strengths and needs.
- Evidence-Based**: ABA and CBT are well-supported by research.
- Innovation**: Emerging therapies like brain stimulation and VR offer new possibilities.
- Whole-Person Approach**: Combining therapies, education, medication (when needed), and family support leads to the best outcomes.
- Brighter Futures**: With the right support, individuals with autism can build skills, confidence, and meaningful lives.

Different support. Brighter tomorrows.

Evidence today. Opportunities for tomorrow.

Together, we can help every individual with autism reach their full potential.

SCIENCE COMPASSION PROGRESS FOR A BRIGHTER TOMORROW

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Autism Outcomes Across the Lifespan

Different journeys. Real progress. Brighter futures.

Different Brains. Brighter Futures.

SUPPORT INCLUSION OPPORTUNITY BELONGING

LIFELONG POTENTIAL. BRIGHTER TOMORROWS

“Early support can change trajectories — and lives.”

Long-term outcomes for individuals with Autism Spectrum Disorder (ASD) vary widely, influenced by early intervention, co-occurring conditions, and the level of intellectual functioning. With timely, comprehensive, and individualized support, many individuals can achieve meaningful progress and improved quality of life.

Development Across the Lifespan

With the right supports, individuals with ASD can make progress at every stage of life.

Early Childhood (0–5 years)

- Early comprehensive interventions improve cognitive, language, and adaptive skills (Shi et al., 2021).
- Parental involvement enhances outcomes.

Build Foundations

School Age (6–12 years)

- Continued gains in communication, social skills, and adaptive functioning with individualized supports.
- Positive outcomes are linked to early and sustained intervention.

Learn and Grow

Adolescence (13–18 years)

- Increased focus on mental health, social relationships, and transition planning.
- Co-occurring conditions (e.g., anxiety, depression) can impact outcomes.

Prepare for Future

Adulthood (18+ years)

- Many face challenges in employment and independent living (Scheeren et al., 2022).
- Outcomes vary based on symptom severity, co-occurring conditions, and access to ongoing support (Elias & Lord, 2021).

Work and Live Independently

Lifelong Development

- With sustained, individualized support, many individuals lead fulfilling lives, build relationships, and contribute to their communities.
- Quality of life can be enhanced at any age through inclusive services and opportunities.

Meaningful Lives at Every Stage

Key Factors Influencing Outcomes

Early Intervention

Linked to better cognitive, language, and adaptive outcomes.

Individualized Support

Tailored interventions based on unique strengths and needs.

Parental Involvement

Active family participation enhances developmental gains.

Co-occurring Conditions

Mental health, medical, and intellectual differences can influence the outcome trajectory.

Ongoing Challenges in Adulthood

Employment

Lower employment rates compared to the general population.

Independent Living

Many require continued support for daily living skills and community integration.

Social Inclusion

Greater opportunities and inclusive environments are needed.

“Outcomes are not fixed — with the right support, individuals with autism can continue to grow, learn, and thrive throughout life.”

More Support. More Opportunities. Brighter Tomorrows.

Investing in individualized, lifelong support can help every individual with autism reach their full potential.

SCIENCE PEOPLE POSSIBILITIES BRIGHTER TOMORROWS

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Assessment of Autism Spectrum Disorder (ASD)

Comprehensive. Individualized. Evidence-Based. A Brighter Path Forward.

Different Brains. Brighter Futures.

UNDERSTAND
ASSESS
SUPPORT
EMPOWER

Assessment of ASD involves a comprehensive, multidisciplinary evaluation to understand an individual's strengths, challenges, and support needs. Accurate assessment informs diagnosis, guides intervention planning, and helps identify co-occurring conditions to ensure the best possible outcomes.

1 Comprehensive Assessment
Evaluate multiple domains due to high rates of co-morbidity.

- Intellectual functioning** (e.g., cognitive abilities, adaptive skills)
- Neuropsychological abilities** (e.g., attention, memory, executive functioning)
- Achievement** (e.g., academic skills)
- Emotional status** (e.g., anxiety, mood, behavior)
- Personality** (e.g., temperament, social style)
- Protective factors** (e.g., family support, resilience, strengths, interests)

2 A Careful History Is Essential
Gather detailed developmental, medical, educational, and psychosocial history.

- Prenatal, birth, and early developmental history
- Medical history (including co-occurring conditions)
- Family history (e.g., neurodevelopmental, psychiatric, genetic)
- Developmental milestones
- Behavioral, social, and communication history
- Educational history and previous interventions
- Current functioning across home, school, and community settings

Information from multiple sources (parents, caregivers, teachers, and the individual) provides a more complete picture.

3 Use Reliable and Valid Measures
Well-developed, reliable, and valid assessment tools should be used to the extent they are available.

- Standardized tools** (e.g., ADOS-2, ADI-R, behavior rating scales)
- Multiple methods** (e.g., interviews, observations, questionnaires)
- Multi-informant perspective** (e.g., parents, teachers, clinicians, individual)
- Cultural and linguistic considerations** to ensure accurate and fair assessment

No single tool can diagnose ASD. A combination of measures and clinical judgment is necessary.

4 Meet Diagnostic Criteria
A diagnosis of ASD must meet established criteria.

- DSM-5-TR**
Diagnostic and Statistical Manual of Mental Disorders, 5th Edition, Text Revision
- ICD-10**
International Classification of Diseases, 10th Revision (or ICD-11, where applicable)

Key Considerations

- Symptoms must meet the full criteria in either DSM-5-TR or ICD-10.
- Clinical judgment is essential, considering developmental history, current functioning, and co-occurring conditions.
- Assessment should be conducted by trained professionals with expertise in ASD.

“A thorough assessment opens the door to the right support and a brighter future.”

Early and accurate assessment can lead to timely support, better outcomes, and a brighter future.

Knowledge Leads to Opportunity.
Through comprehensive assessment, we can better understand each individual's unique profile and build a more inclusive, supportive world.

SCIENCE
COMPASSION
INCLUSION
BRIGHTER
TOMORROWS

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Diagnosis

Earlier insights. Brighter futures.

Accurate and timely diagnosis is the first step toward effective support and lifelong opportunities.

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Standardized Diagnostic Tools

- ASD diagnosis typically involves using standardized tools such as the Autism Diagnostic Observation Schedule (ADOS-2) and Autism Spectrum Rating Scales (ASRS).
- However, these tools do not specifically diagnose ASD.

Risk of Misdiagnosis

- This can lead to potential misdiagnosis, especially in those with co-occurring cognitive or sensory impairments (Bishop & Lord, 2023).

Importance of Early Detection

- Early detection is critical, as timely intervention can significantly influence developmental outcomes.

Advances in Diagnostic Technologies

- Emerging technologies, including machine learning and biomarkers, are enhancing the precision of ASD diagnoses (Yu et al., 2024; Rasul et al., 2024).
- These innovations may help identify biological and behavioral patterns, leading to earlier and more accurate diagnosis in the future.

“Earlier understanding opens the door to brighter tomorrows.”

KNOW
SUPPORT
INCLUDE
EMPOWER

Four Autism Subtypes (Litman et al., 2025)
Researchers from Princeton University and the Simons Foundation identified four clinically and biologically distinct autism subtypes, using data from over 5,000 individuals. This finding marks a significant advance toward precision diagnosis and personalized care.

- Subtype 1: Social and Behavioral Challenges**
Marked by significant social communication difficulties and higher levels of repetitive behaviors.
- Subtype 2: Moderate Challenges with Anxiety**
Characterized by moderate social and behavioral difficulties, with elevated anxiety symptoms.
- Subtype 3: Milder Symptoms and Later Diagnosis**
Generally milder features, often diagnosed later, with better adaptive functioning.
- Subtype 4: Distinct Biological Profile**
Unique genetic and biological markers, with variable cognitive and behavioral features.

Toward Precision Diagnosis and Personalized Care
Identifying distinct subtypes can improve diagnostic accuracy, guide targeted interventions, and support better long-term outcomes for individuals with ASD.

Different Paths. Brighter Futures.

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Making the Diagnosis of ASD

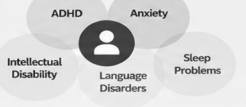
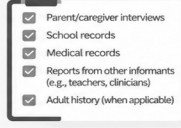
A careful, comprehensive, and evidence-based process.

Different Brains. Brighter Futures.

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- 1 Meets DSM-5 Criteria**
The individual's symptoms must meet the diagnostic criteria for Autism Spectrum Disorder in the DSM-5 (or DSM-5-TR).

"A diagnosis is based on a comprehensive evaluation, not a single test."
- 2 Coping Behaviors Assessed**
Evaluate strategies the individual uses to cope with social, sensory, and behavioral challenges, which may influence how symptoms present.

Sensory regulation
Emotional coping
Adaptive strategies
- 3 Co-morbid Behaviors and Disorders Assessed**
Screen for co-occurring conditions (e.g., ADHD, anxiety, depression, intellectual disability, language disorders, sleep problems) that may affect diagnosis and treatment planning.

- 4 Corroborating Data Obtained**
Gather information from multiple sources about the individual's developmental history and current functioning, including childhood and adulthood.

Parent/caregiver interviews
School records
Medical records
Reports from other informants (e.g., teachers, clinicians)
Adult history (when applicable)
- 5 Intellectual, Achievement, and Neuropsychological Data Collected (if Warranted)**
Assess cognitive abilities, academic achievement, and neuropsychological functioning to understand strengths, challenges, and overall profile.

Cognitive functioning
Academic achievement
Neuropsychological abilities (e.g., attention, memory, executive function)
- 6 Use ASD-Designed Tools (Questionnaires and Interactive Measures)**
Administer standardized, validated tools specifically designed for ASD, such as the ADOS-2, ADI-R, and rating scales, along with questionnaires and interactive measures, to inform the diagnosis.

ADOS-2
ADI-R
Rating Scales (e.g., SRS, ASRS)
- 7 Integrate All Information for a Clinical Judgment**
Synthesize data from all sources — clinical observation, assessments, interviews, and standardized tools — to determine whether the individual meets the criteria for ASD and to guide individualized support and intervention.

A fuller understanding. A brighter future.

Key Takeaways

- Diagnosis is multidimensional, not based on a single test.
- Multiple sources of information improve accuracy.
- Co-occurring conditions must be considered.
- Use reliable, validated, ASD-specific assessment tools.
- A careful, individualized approach leads to better support and outcomes.

Different Brains. Brighter Futures.

Accurate Diagnosis. Earlier Support. Brighter Tomorrows.
A comprehensive assessment can open the door to understanding, empowerment, and a better quality of life.

SCIENCE
COMPASSION
INCLUSION
OPPORTUNITY
A BRIGHTER TOMORROW

23

Common Questionnaires Used to Evaluate Autism

Screening • Informing Assessment • Guiding Support

BETTER
INFORMATION
BRIGHTER
SUPPORT

A variety of standardized questionnaires help identify autism-related behaviors, strengths, and challenges across home, school, and clinical settings. They provide valuable information but do not diagnose autism.

ASRS
Autism Spectrum Rating Scales

Widely used rating scale that assesses behaviors associated with autism across multiple settings (e.g., home, school).

- Parent, teacher, and self-report forms
- Measures social communication, restricted behaviors, and more
- Useful for screening and monitoring change over time
- Different age forms (e.g., 2–5, 6–18, Adult)

CARS
Childhood Autism Rating Scale

Clinician-rated scale that assesses the severity of autism-related behaviors based on observation and caregiver report.

- Typically used with children (≥2 years)
- Rates 15 behavioral areas (e.g., social interaction, communication, play)
- Provides a severity score (mild to severe)
- Useful for treatment planning and monitoring progress

SCQ
Social Communication Questionnaire

A brief parent-report screening tool that assesses social communication skills and restricted, repetitive behaviors.

- For ages ≥4 years
- Based on Autism Diagnostic Interview (ADI-R) items
- Quick to administer (about 10–15 minutes)
- Helps identify individuals who may need a more comprehensive evaluation

SRS-2
Social Responsiveness Scale

Measures the severity of social impairment associated with autism across home, school, and community settings.

- Parent, teacher, and self-report forms
- Assesses social awareness, cognition, communication, motivation, and restricted behaviors
- Useful for identifying social challenges and tracking change

Vineland-3
Vineland Adaptive Behavior Scales

Assesses adaptive behavior and daily living skills, which can be impacted in autism. Often used as part of a comprehensive evaluation (e.g., for educational planning).

- Parent, teacher, or caregiver interview
- Measures communication, daily living skills, socialization, and motor skills
- Helps identify strengths and support needs
- Useful for IEP planning and tracking progress

Important:
These questionnaires do NOT diagnose autism.
They are screening or assessment tools that provide information about behaviors and help guide further evaluation, educational planning, and intervention. A comprehensive evaluation by qualified professionals (e.g., psychologist, developmental pediatrician, or multidisciplinary team) is needed for a diagnosis.

Key Takeaway
Questionnaires are valuable pieces of the puzzle, but they are just one part of a comprehensive assessment process that includes clinical interview, observation, and multiple sources of information.

24

Structured & Interactive Autism Assessment Tools (Part 1)

Standardized Assessments That Inform – Not Diagnose

These tools are commonly used as part of a comprehensive evaluation to understand autism-related strengths and challenges across developmental stages. They provide valuable information but **do not diagnose autism on their own**.

Test / Measure	Full Name	What It Involves	Key Areas Assessed	Typical Age Range	Notes
 ADOS-2	Autism Diagnostic Observation Schedule, Second Edition	Standardized, semi-structured observation with interactive activities.	Social communication, interaction, play/imagination, restricted & repetitive behaviors.	12 months through adulthood	Widely used as part of a comprehensive evaluation; requires trained administration.
 ADI-R	Autism Diagnostic Interview-Revised	Structured caregiver interview about developmental history and behavior.	Early development, social communication, behavior patterns, restricted interests.	2 years through adulthood	Conducted with a parent/caregiver; complements direct observation (e.g., ADOS-2).
 MIGDAS-2	Monteiro Interview Guidelines for Diagnosing the Autism Spectrum, Second Edition	In-depth, semi-structured interview and observation with emphasis on sensory and behavioral phenomenology.	Communication, social interaction, sensory experiences, behavior patterns, developmental history.	Toddlerhood through adulthood	Provides a detailed, qualitative profile; requires specialized training.
 PEP-3	Psychoeducational Profile, Third Edition	Structured, play-based assessment of developmental and behavioral skills.	Developmental level, cognition, communication, motor skills, behavior, and learning.	Birth through 7 years (chronological age)	Useful for planning educational intervention and measuring progress.
 CARS-2	Childhood Autism Rating Scale, Second Edition	Clinician rating based on observation and information from multiple sources.	Autism-related behaviors and overall symptom severity.	2 years through adulthood	A clinician rating scale (not a direct test); helpful for characterizing severity.



No single test diagnoses autism.

These tools provide important information that contributes to a comprehensive evaluation. A diagnosis is a clinical determination made by qualified professionals based on multiple sources of information, including developmental history, observation, standardized measures, and diagnostic criteria (e.g., DSM-5-TR).



Key Takeaways

- Standardized tools help identify strengths and challenges.
- They are most informative when used together.
- They do not diagnose autism or determine IDEA eligibility.
- Results guide individualized support, intervention planning, and educational programming.

PEOPLE
POTENTIAL
PROGRESS

Better
information.
Brighter
futures.



Different today.
A brighter
tomorrow.

25

Structured & Interactive Autism Assessment Tools (Part 2)

Additional Measures Commonly Used in Autism Evaluations

These tools provide standardized, structured information about social communication, behavior, and development. They are valuable components of a comprehensive evaluation, but **do not diagnose autism on their own**.

Test / Measure	Full Name	What It Involves	Key Areas Assessed	Typical Age Range	Notes
 STAT	Screening Tool for Autism in Toddlers & Young Children	Structured, interactive activities with the child.	Play, social communication, imitative behavior, and early language.	24 to 36 months	Designed for very young children; often used as a screening tool.
 AOSI	Autism Observation Scale for Infants	Structured observation of infant behaviors (typically via video).	Early social-communication behaviors, sensory and motor behaviors.	6 to 18 months	Helps identify early signs of autism risk; not a diagnostic tool.
 BOSA	Brief Observation of Symptoms of Autism	Structured observation (often via telehealth) with naturalistic activities.	Social communication, interaction, play, and restricted/repetitive behaviors.	Varies by module (toddler through adolescent)	An alternative to ADOS-2 in some settings; not a stand-alone diagnostic tool.
 3Di	Developmental, Dimensional and Diagnostic Interview	Structured caregiver interview about developmental history and behavior.	Developmental history, social communication, restricted behaviors, and adaptive functioning.	2 years through adulthood	Designed to align with DSM-5 criteria; provides dimensional scores and diagnostic support but does not diagnose alone.
 SRS-2	Social Responsiveness Scale, Second Edition	Questionnaire completed by parents, teachers, or self-report (adolescents/adults).	Social awareness, social cognition, communication, social motivation, and restricted interests/behaviors.	2.5 years through adulthood	A questionnaire/screener, not an interactive test; useful for identifying the presence and severity of autism-related traits.



Important: These assessments do not diagnose autism.

They provide standardized information that helps inform clinical judgment, intervention planning, and educational programming. A diagnosis of Autism Spectrum Disorder (ASD) is a clinical determination based on integration of multiple sources of information, including developmental history, observation, standardized measures, and DSM-5-TR criteria.



Key Takeaways

- Each tool offers unique and complementary information.
- Best practice is to use multiple tools and data sources.
- Interpretation requires clinical expertise.
- These tools inform individualized support, intervention planning, and educational decision-making.



Remember:

- No single test diagnoses autism.
- These tools provide evidence that contributes to a comprehensive evaluation.
- A diagnosis is made by qualified professionals based on multiple sources of information and diagnostic criteria (e.g., DSM-5-TR).
- Similarly, no single test establishes IDEA eligibility.
- Results should always be interpreted in the context of the individual's developmental history, strengths, needs, and environment.

More pathways.
Brighter tomorrow.

EVIDENCE • COMPASSION • OPPORTUNITY • BRIGHTER FUTURES

26

IDEA Autism Eligibility vs. Clinical Diagnosis of Autism

Different purposes. Overlapping information. Both can be important.



Different lenses.
A shared goal:
Better support.



Clinical Diagnosis of Autism

A medical/clinical determination



Purpose

To identify a medical/behavioral condition and inform treatment and supports.



Who Makes the Determination?

Qualified healthcare professionals (e.g., developmental pediatrician, child psychologist, psychiatrist, neurologist).



Criteria Used

Standardized diagnostic criteria (e.g., DSM-5).



Outcome

A clinical diagnosis (Autism Spectrum Disorder) recorded in a medical record.



Use of Information

Guides medical care, therapy (e.g., ABA, speech, OT), family supports, and access to some community services (e.g., insurance, disability benefits).

Key Question

Determination Made By

Criteria/Standards

Result

Purpose/Use



IDEA Autism Eligibility

An educational determination



Purpose

To determine if a student needs special education and related services due to autism.



Who Makes the Determination?

A multidisciplinary team (e.g., school psychologist, special education teacher, speech-language pathologist, with parent input).



Criteria Used

Definition of Autism in the Individuals with Disabilities Education Act (IDEA) and documented educational impact.



Outcome

Eligibility for special education services under the category of Autism (or, in some cases, another category).



Use of Information

Guides development of an Individualized Education Program (IEP) with goals, supports, and services to address educational needs.



Key Takeaway: A clinical diagnosis and IDEA eligibility answer different questions and serve different purposes. A student can have a clinical diagnosis without qualifying for special education, and a student can qualify for special education under autism even if they do not have a formal clinical diagnosis, as long as their educational needs meet IDEA criteria.

Both can provide valuable information to support the individual across settings.

27

Use of Technology to Detect Risk of ASD

Innovation for
earlier identification
and better outcomes



Leverage Technology

Use innovative tools to detect early risk for ASD.



Advance Early Identification

Support earlier recognition and linkage to services.



Expert Leadership

Work led by the Marcus Autism Center at Emory University.



Impact Lives

Inform clinical care, research, and improved outcomes for individuals with ASD and their families.

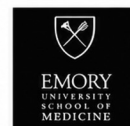


Ami Klin, Ph.D.

Director, Marcus Autism Center
Professor and Chief, Division of Autism and Related Disorders, Department of Pediatrics, Emory University School of Medicine

Warren Jones, Ph.D.

Research Director, Marcus Autism Center
Assistant Professor, Division of Autism and Related Disorders, Department of Pediatrics, Emory University School of Medicine



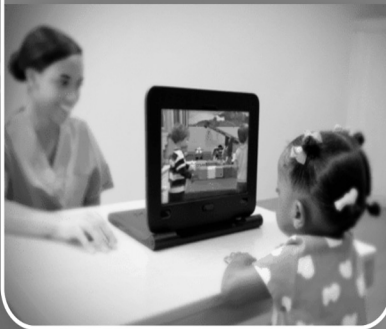
Key Message: Technologic-enabled approaches can help detect risk for ASD earlier, support timely intervention, and improve long-term outcomes.

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HOW IT WORKS:

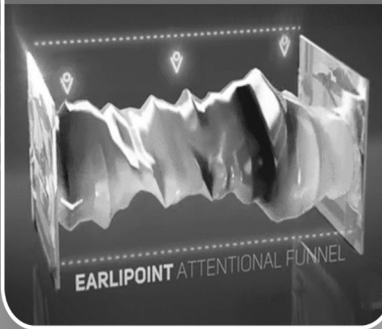
1 THEY WATCH

Children watch a series of short video scenes of social interactions while their looking behavior is monitored.



2 EARLIPOINT DETECTS

FDA-authorized EarliPoint captures and analyzes looking behavior imperceptible to the human eye.



3 YOU DIAGNOSE

With robust data empowering clinicians to reach a diagnosis with confidence and objectivity.



29



Eye Gaze as an Early Indicator of Autism

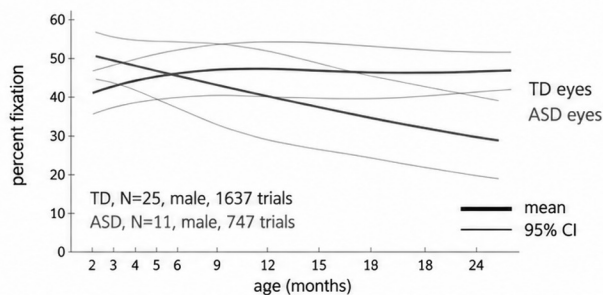
Attention to eyes in infancy is reduced in children later diagnosed with ASD and predicts social outcomes.

Early differences in social attention can provide valuable clues for earlier identification and support.

1

Attention to Eyes Declines in Infants Later Diagnosed with Autism

Jones & Klin (Nature, 2015)

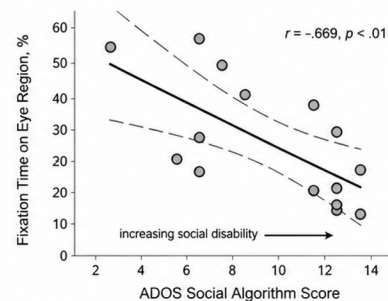


Key Finding: Attention to eyes is present in 2–6-month-old infants but declines over time in those later diagnosed with autism.

2

Less Eye Fixation Predicts Greater Social Disability

Jones, Carr, & Klin (2008; Arch Gen Psychiatry)



Less fixation time on eyes predicts more severe social disability.



Key Finding: Reduced attention to eyes in early development is associated with higher (more severe) ADOS social algorithm scores.



Overall Takeaway: Eye-tracking measures of attention to social stimuli, such as faces and eyes, can help identify early risk for ASD and relate to later social functioning, highlighting the potential of technology in early detection.

Earlier detection.
Brighter futures.



30



31

Characteristic Cognitive Impairments to Evaluate in ASD

Key cognitive abilities that are often affected and important to assess in autism spectrum disorder (ASD).

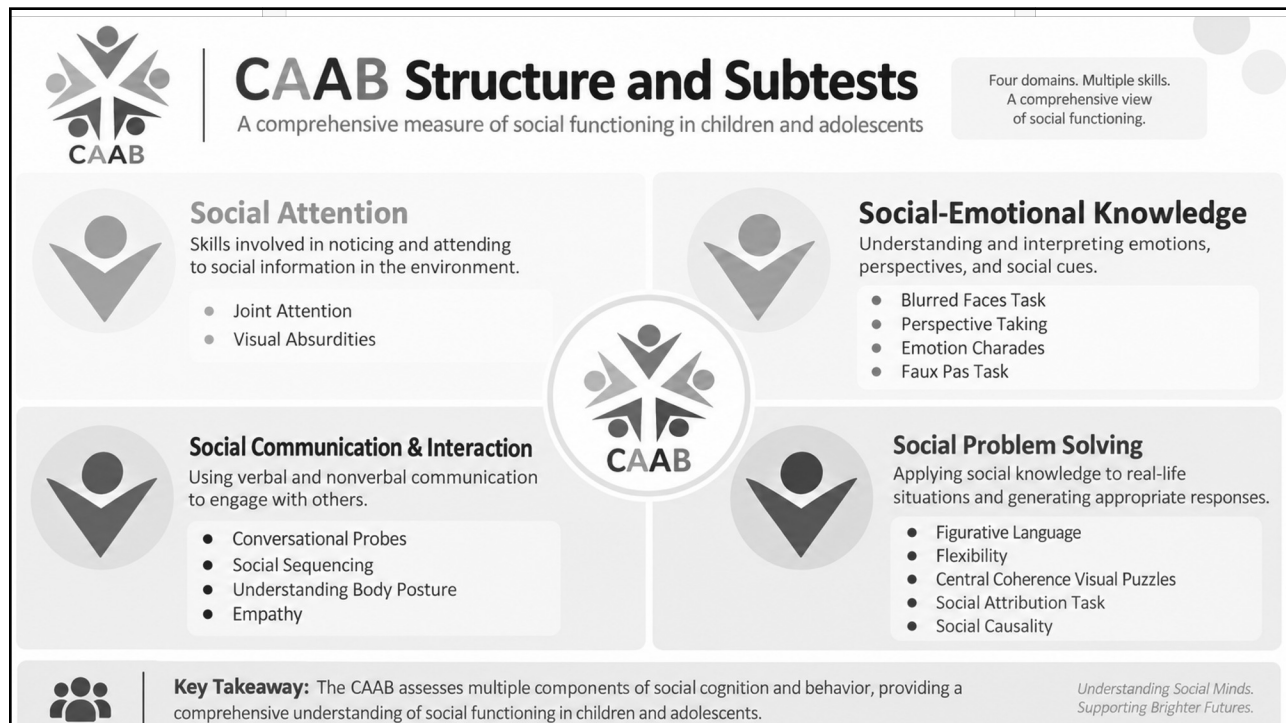
Understanding these cognitive processes helps inform assessment, intervention, and support.

- 1 Attribute Mental States**
 The ability to attribute mental states to oneself and others.
- 2 Appropriate Emotional Response**
 The ability to display emotional reaction appropriate to another person's mental state (joint attention of emotion).
- 3 Plan and Attend to Relevant Details**
 The ability to plan and attend to relevant details in the environment.
- 4 Understand Communicative Content of Gaze**
 The ability to understand the communicative content of gaze.
- 5 Work Cooperatively with Others**
 The ability to work cooperatively with others (joint attention of behavior).
- 6 Higher-Order Social Information Processing**
 The ability to understand, comprehend, analyze, synthesize, evaluate and differentiate in particular social information in the environment.

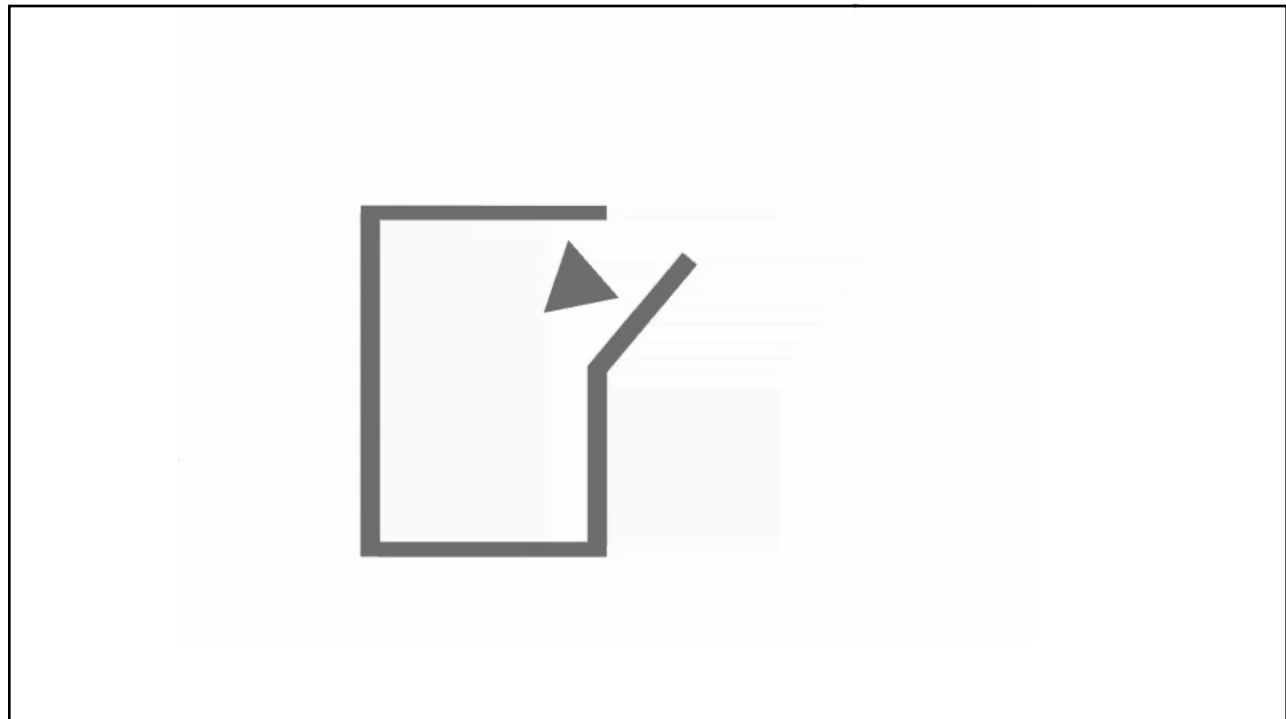
Key Takeaway: These cognitive abilities support core social understanding and are essential targets for assessment, intervention, and individualized support in ASD.

Insight today. Brighter tomorrow.

32



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34

Understanding the Complexity of ASD

Multiple factors contribute to the diversity of development and behavior in autism spectrum disorder.



Genetic and Phenotypic Factors

In a Spectrum Disorder genetic and phenotypic factors predispose certain individuals to express certain Central Nervous System vulnerabilities leading to **poorly adapted variations in development and behavior.**



Genetic influences
increase risk

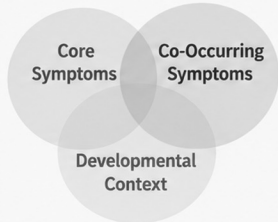


Phenotypic differences
shape expression



Symptom-Based Diagnosis

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



Symptoms interact in complex ways, **leading** to unique profiles of strengths and challenges.



Key Takeaway: ASD is a multifaceted condition influenced by genetic and phenotypic factors, with symptom presentations that vary and interact in complex ways.

*Complex pathways.
Unique individuals.
Brighter futures.*

35



ASRS Child and Adult

A Comprehensive Measure Across the Lifespan



Evidence-Based
Reliable, valid, and fair assessment



For All Ages
Child and Adult forms



Real-World Impact
Supports clinical decision-making and meaningful outcomes



ASRS Child
Understanding Today for a Brighter Tomorrow



ASRS Adult
Insight Across the Lifespan



MHS Beyond Assessments

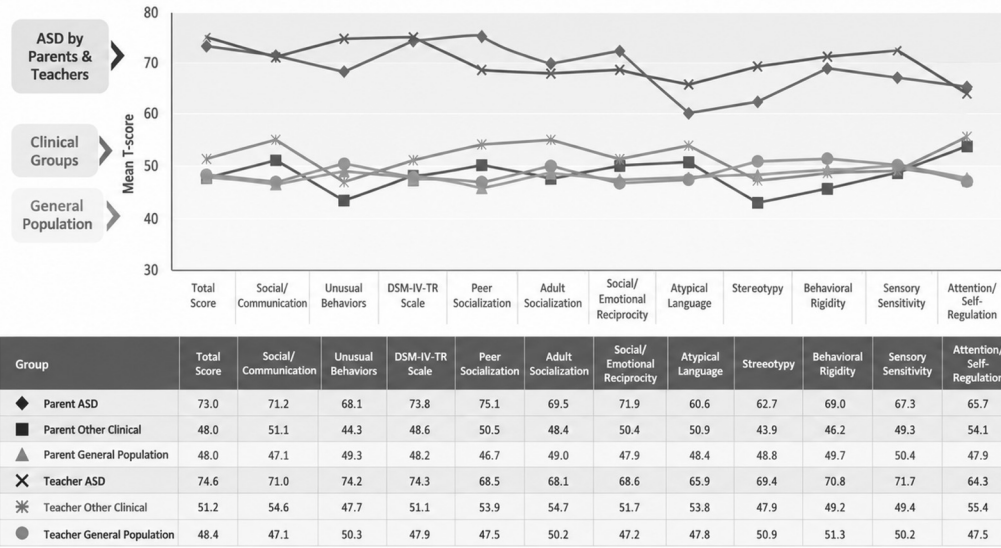
People | Possibilities | Brighter Tomorrows

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ASRS Validity for Ages 2–5

Mean T-scores by Informant and Group Across ASRS Scales

Higher scores indicate greater levels of ASD-related behaviors



Key Takeaways

- Parents and teachers of children with ASD report substantially higher scores across all scales compared to clinical and general population groups.
- Other clinical groups show intermediate scores, generally higher than the general population but lower than ASD.
- Consistent patterns across scales support the construct validity of the ASRS for ages 2–5.

Groups Shown

- Parent ASD
- Parent Other Clinical
- Parent General Population
- Teacher ASD
- Teacher Other Clinical
- Teacher General Population



The ASRS demonstrates clear differentiation between children with ASD and comparison groups across all scales for ages 2–5, supporting its validity in early childhood settings.

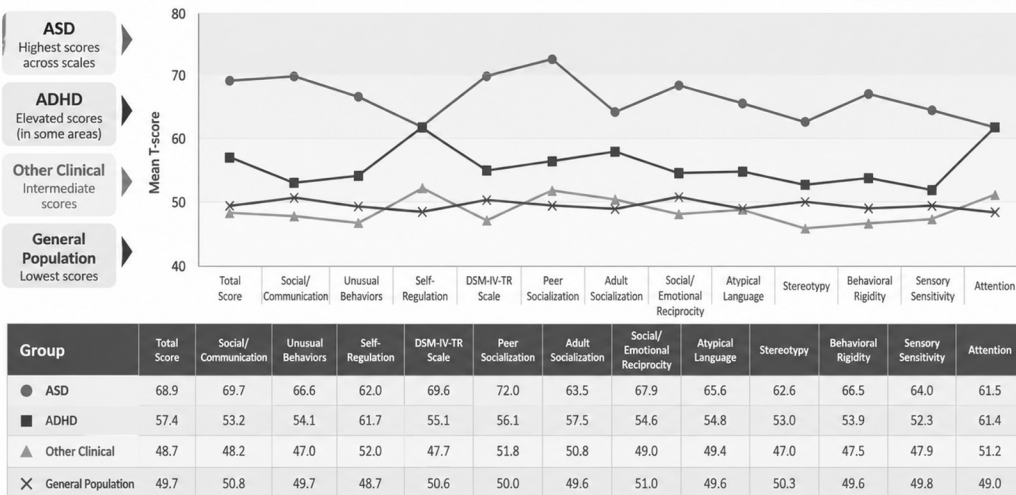
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37

ASRS Validity: Ages 6–18 (Parents)

Mean T-scores by Group Across ASRS Scales

Higher scores indicate greater levels of ASD-related behaviors



Key Takeaways

- Clear Differentiation**
Parents of children with ASD report substantially higher scores across all scales compared to clinical and general population groups.
- ADHD Profile**
Children with ADHD show elevated scores relative to general population, particularly in Self-Regulation, Attention, and related behaviors.
- Clinical vs. General Population**
Other clinical groups show intermediate scores, generally higher than the general population but lower than ASD and ADHD.
- Supports Validity**
Consistent patterns across scales support the construct validity of the ASRS for ages 6–18 (parent form).



Conclusion: The ASRS demonstrates clear and consistent group differences for ages 6–18 (parent form), with the highest scores in the ASD group and the lowest in the general population, supporting its validity.

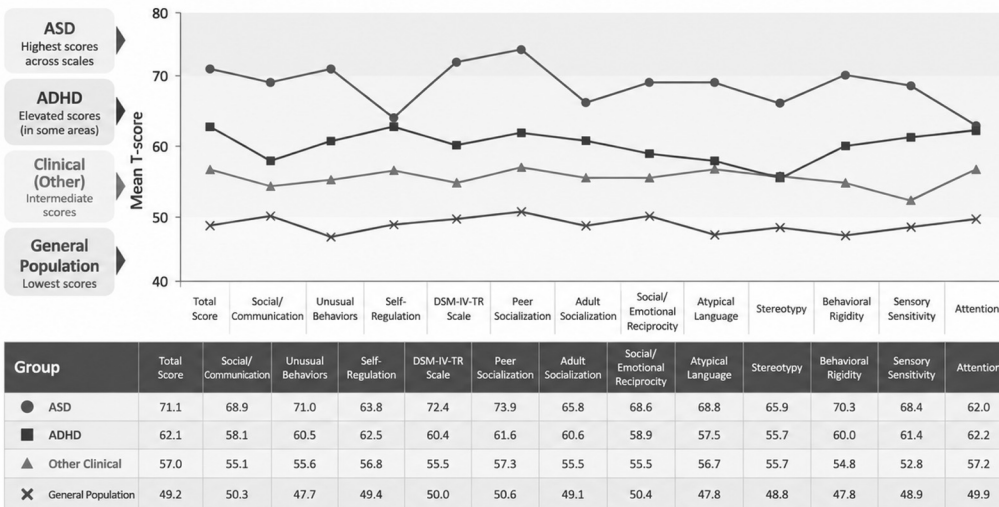
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CHILD AND ADOLESCENT
AUTISM SPECTRUM RATING SCALES™

38

ASRS Validity: Ages 6–18 (Teachers)

Mean T-scores by Group Across ASRS Scales (Teacher Report)

Higher scores indicate greater levels of ASD-related behaviors



Key Takeaways

Clear Differentiation
Teachers of children with ASD report the highest scores across all scales compared to clinical and general population groups.

ADHD Profile
Children with ADHD show elevated scores relative to the general population, particularly in Self-Regulation, Attention, and related behaviors.

Clinical vs. General Population
Other clinical groups show intermediate scores, generally higher than the general population but lower than ASD and ADHD.

Supports Validity
Consistent patterns across scales support the construct validity of the ASRS for ages 6–18 (teacher report).



Conclusion: Teacher-reported ASRS scores show clear and consistent group differences for ages 6–18, with the highest scores in the ASD group and the lowest in the general population, supporting the measure's validity in school settings.

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AUTISM SPECTRUM RATING SCALES™

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ASRS®
ADULT
AUTISM SPECTRUM RATING
SCALES™ ADULT

Standardization and Psychometric Properties

Evidence-based norms for a diverse adult population

MHS
Beyond Assessments

Reliable Data.
Clearer Paths Forward.

1 Adult Normative Samples

SELF-REPORT	OBSERVER	TOTAL
N = 1,000	N = 1,000	N = 2,000

Normative samples differ less than 1.7% from actual proportions to the 2023 U.S. Census in terms of:

- Gender
- Age
- Race/Ethnicity (White, Black, Hispanic, Asian, Other)
- Region (Northeast, Midwest, South, West)
- Education Level (Less than High School to Graduate/Professional degree)



Though normed on a U.S. sample, ASRS Adult scores are validated for use in Canada (refer to manual – appendix D, *Cross-National Validation Study [Canada vs. United States]*)

2 Inclusion of Clinical Populations

8.3% for Self-Report and 8.2% for Observer of the normative sample includes individuals with one or more clinical diagnosis:

- Autism Spectrum Disorder (ASD)
- Attention-Deficit/Hyperactive Disorder (ADHD)
- Generalized Anxiety Disorder (GAD)
- Major Depressive Disorder (MDD)



Including individuals with common clinical diagnoses in the normative sample helps ensure the ASRS Adult reflects real-world diversity and improves its applicability in clinical settings.

3 Normative Groups and Scaling

Trends in raw scores by scales were inspected to determine our normative groups.

Gender differences were minimal, so combined gender norms were used; age differences were more pronounced, leading to five distinct age bands:

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55+

UNDERSTAND
ASSESS
SUPPORT
EMPOWER

Robust standardization. Meaningful insights.
Supporting a more inclusive understanding of autistic traits in adults.

40

ASRS[®]
ADULT
AUTISM SPECTRUM RATING
SCALES™ ADULT

Reliability

Consistent Results. Greater Confidence.

The reliability of an instrument describes how **precise and consistent** the scores are. This section provides a summary of results for the reliability analyses of the ASRS Adult, including **internal consistency**, **test-retest reliability**, and **inter-rater reliability**.

MHS
Beyond Assessments

UNDERSTAND
ASSESS
SUPPORT
EMPOWER

Reliable Data.
Clearer Paths Forward.

1 Internal Consistency

High consistency across forms and age groups.

- Excellent internal consistency for both forms, and across all age groups.
- Indicates that the items within the ASRS Adult consistently measure the same constructs.

FORM	MEDIAN ALPHA
SELF-REPORT	.88
OBSERVER	.91

2 Test-Retest Reliability

Stable scores over time.

- Excellent test-retest reliability across all forms.
- Demonstrates stability in scores over time.

FORM	MEDIAN CORRELATION (r)
SELF-REPORT	.79
OBSERVER	.82

3 Inter-Rater Reliability

Strong agreement across raters.

- Moderate/strong levels of consistency across scales.
- Self-report can provide greater insight into internal processes (e.g., thoughts, emotions).
- Different settings, level of insight, and rater characteristics can all influence the level of agreement.

STUDY	PAIRS	MEDIAN CORRELATION (r)
Study 1 (Self-Report vs. Observer)	SELF-REPORT/OBSERVER	.69
Study 2 (Two Different Observers)	TWO OBSERVERS (DIFFERENT TYPE)	.65

Key Takeaways

The ASRS Adult demonstrates strong reliability across multiple indices.

Scores are consistent, stable, and show good agreement across raters.

Supports confident use in both clinical and research settings.

Evidence you can trust. Insights that make a difference.

PEOPLE | POSSIBILITIES | BRIGHTER TOMORROWS

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ADULT
AUTISM SPECTRUM RATING
SCALES™ ADULT

ASRS Adult Scale Structure

A comprehensive structure to assess core autism-related behaviors in adults.

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Beyond Assessments

Standardized. Comprehensive. Meaningful Insights.

About the Rating Metrics

The ASRS Adult includes several key rating metrics to capture different aspects of behavior.

Duration

How often the behavior occurs over time.

Omitted Items

Important behaviors that may be absent or overlooked.

Negative Impression Index

Identifies potential underreporting or unusually favorable responses.

Inconsistency Index

Detects inconsistent response patterns.

Overall Scales

Provides summary scores to assess the overall level of autism-related traits.

ASRS Adult Scales

Two primary domains that capture core areas of functioning.

Treatment Scales

Provides detailed subscales to inform targeted intervention planning.

Total Score

Overall level of autism-related behaviors across all domains.

DSM/ICD

Scores aligned with DSM-5-TR/ICD-10 criteria to support clinical interpretation.

Social/Communication

Assesses social interaction, communication, and reciprocal behaviors.

Unusual Behaviors

Assesses restricted, repetitive behaviors and atypical sensory-motor patterns.

Socialization

Peer relationships and social engagement.

Social-Emotional Reciprocity

Back-and-forth social interaction and response.

Atypical Language

Unusual or repetitive language patterns.

Behavioral Rigidity

Resistance to change and need for sameness.

Self-Injurious Behaviors

Self-harm or self-directed behaviors.

Stereotypy

Repetitive motor behaviors and mannerisms.

Sensory Sensitivity

Atypical responses to sensory input.

Camouflaging

Masking or compensatory behaviors.

Anxiety

Worry, tension, and anxiety-related behaviors.

Attention

Inattention or difficulty sustaining focus.

A Structured Approach for Deeper Understanding.
From comprehensive assessment to more personalized support.

PEOPLE | POSSIBILITIES | BRIGHTER TOMORROWS

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ASRS[®]

ADULT

AUTISM SPECTRUM RATING
SCALES™ ADULT

Validity of the ASRS Adult

Strong Evidence for a Reliable and Meaningful Measure

Assess with Confidence.
Support Brighter Futures.

1 Internal Structure

Well-defined scale structure

Unidimensionality of Treatment Scales

- Each of the 10 Treatment Scales is supported by confirmatory factor analysis (CFA) as unidimensional.

Higher-Order Structure

- Two-factor model: (1) Social/Communication and (2) Unusual Behaviors.
- Domains are highly correlated ($r \approx .76-.77$), justifying the use of a **Total Score**.
- All factor loadings were positive and significant, with median values for Social/Communication and Unusual Behaviors of .587 and .719 (Self-Report), and .647 and .735 (Observer), respectively.

	Fit Indices (CFA)	SELF-REPORT	OBSERVER
Treatment Scales (Median Values)	CFI	.979	.979
	TLI	.968	.971
	SRMR	.039	.041
	RMSEA	.093	.079
Higher-Order Model (2-factor)	CFI	.934	.932
	TLI	.931	.930
	SRMR	.060	.060
	RMSEA	.042	.046

2 Convergent Validity

Strong correlations with established measures

ASRS Adult scores show strong correlations with other validated ASD measures.

ASSESSMENT	MEDIAN CORRELATION (r)	
	SELF-REPORT	OBSERVER
Social Responsiveness Scale, Second Edition (SRS-2)	.77	.85
Autism Spectrum Quotient (AQ)	.58	-
Camouflaging Autistic Traits Questionnaire (CAT-Q)	.75	-

Distinct Score Profiles

ASRS Adult differentiates ASD from the general population across all scales.

	TOT	SC	UB	DM	SO	SR	AL	ST	BR	SS	SB	CM	AT	AX
ASD	65.9	63.9	64.4	65.6	64.3	61.5	63.2	64.3	64.9	64.4	59.5	62.9	62.2	61.2
General Population	50.0	50.2	50.0	50.2	50.1	49.6	49.9	50.0	50.5	49.6	49.6	50.1	49.9	50.4

Note. TOT = Total Score, SC = Social/Communication, UB = Unusual Behaviors, DM = DSM/ICD Scale, SO = Socialization, SR = Social/Emotional Reciprocity, AL = Atypical Language, ST = Stereotypy, BR = Behavioral Rigidity, SS = Sensory Sensitivity, SB = Self-Injurious Behaviors, CM = Camouflaging, AT = Attention, AX = Anxiety.

3 Criterion-related Validity

Effectively distinguishes ASD from other groups

- ASRS Adult effectively distinguishes ASD from both the general population and other clinical groups.
- Large effect sizes support robust differentiation:
 - Self-Report: $d = 0.98-1.89$
 - Observer: $d = 0.47-1.52$
- The ASRS Adult correctly classifies ASD vs. general population using a Total Score T-score cutoff of 60 (Self: 80.7%, Observer: 76.2%), balancing sensitivity and specificity.

Key Takeaways

Strong psychometric support across multiple forms and domains.

Meaningful correlations with established ASD measures.

Effectively distinguishes ASD from general and clinical populations.

PEOPLE
POSSIBILITIES
BRIGHTER
TOMORROWS

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ASRS[®]

ADULT

AUTISM SPECTRUM RATING
SCALES™ ADULT

Fairness

Ensuring Valid and Equitable Assessment Across Diverse Groups

People First.
More Inclusive Insights.

GOAL

Ensuring that the measurement is sensitive to individual characteristics of the intended audience, and that the intended use and interpretation of scores are valid and just across relevant subgroups.

Characteristics of the person (other than the construct being measured – symptoms of ASD) should not influence their responses to the test.

Analyses Conducted

To investigate these differences, we conducted the following analyses:

1 Differential Test Functioning (DTF)

Tests whether the ASRS Adult scales operate in the same way across groups.

2 Mean Group Differences

Compares the size of differences between each group's average score.

Groups Examined

Gender

Race/Ethnicity

Country of Residence

Education Level

The ASRS Adult is designed to provide valid and equitable scores across diverse populations, minimizing the influence of demographic characteristics on test responses.

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ASRS[®] ADULT

AUTISM SPECTRUM RATING SCALES[™] ADULT

Fairness

Equitable Assessment Across Groups

The ASRS Adult shows minimal group differences, with no meaningful bias based on gender, race/ethnicity, or education level.



MHS
Beyond Assessments



GENDER

Minimal differences

- After controlling for age, race/ethnicity, and education, mean score differences between males and females were negligible to small.
- Median Cohen's d = 0.16 (Self-Report), 0.08 (Observer).

Measure	Self-Report (Cohen's d)	Observer (Cohen's d)
Gender Difference (Median)	0.16	0.08



RACE/ETHNICITY

Minimal differences

- Mean differences between Asian, Black, Hispanic, and White groups were negligible to small.
- Median Cohen's d = 0.09 (Self-Report), 0.10 (Observer).
- Maximum difference: ~3.5 points.
- No group was meaningfully advantaged or disadvantaged.

Measure	Self-Report (Cohen's d)	Observer (Cohen's d)
Median Difference	0.09	0.10
Maximum Difference (points)	~3.5	~3.5



EDUCATION LEVEL

Minimal differences

- Mean differences between lower and higher education groups were negligible.
- Median Cohen's d = 0.05 (Self-Report), 0.01 (Observer).

Measure	Self-Report (Cohen's d)	Observer (Cohen's d)
Education Level Difference (Median)	0.05	0.01



Key Takeaway



No practically meaningful differences in ASRS Adult scores by gender, race/ethnicity, or education level.
All observed differences are well below thresholds for practical significance.

Fairness builds trust. Reliable assessment for all.

PEOPLE | POSSIBILITIES | BRIGHTER TOMORROWS

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OVERALL PSYCHOMETRIC FINDINGS!

ASRS Child and Adult

The ASRS Child and Adult show strong evidence of:



Reliability



Validity



Fairness





ASRS[®]
CHILD AND ADULT

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Beyond Assessments

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The Transition Problem



For many cognitively capable autistic adolescents, **academic ability** exceeds **everyday adaptive functioning**.

*More opportunities.
Greater demands.
Brighter futures.*

The transition to adulthood simultaneously increases demands for:



Self-management and executive functioning



Emotional and behavioral regulation



Independent problem solving



Flexible adaptation to change



Social judgment and relationship management



Self-advocacy



Postsecondary education and employment skills



Health and daily-life management



PEOPLE • POTENTIAL • PROGRESS

Supporting the next chapter.

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The Developmental Paradox

Greater independence is expected at the same time that structure decreases.

The developmental paradox:



Environmental structure decreases

(e.g., less supervision, fewer school-based supports)



Expectations for independent self-regulation increase

(e.g., more autonomy, real-world demands)

Research on autistic adulthood consistently identifies difficulties in:



Employment



Postsecondary participation



Adaptive functioning



Community participation



Mental health

These challenges persist **even among individuals without intellectual disability**.

PEOPLE
POTENTIAL
BRIGHTER
FUTURES



EVIDENCE • COMPASSION • OPPORTUNITY • MEANINGFUL LIVES

*More support.
Brighter futures.*

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A Different Definition of Transition Success

From independence at all costs to a meaningful adult life.

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BRIGHTER
FUTURES

Traditional Transition Models

Often emphasize:

“What must this adolescent learn to do independently?”



Focus on individual skills and independence.

A Resilience-Oriented Framework

Asks a broader question:

“What combination of personal competencies, environmental supports, relationships, opportunities, and self-knowledge will allow this person to build a meaningful adult life?”



Considers the whole person within their environment.

Transition Success Includes

Multiple, interconnected dimensions:



Agency
Self-direction and self-advocacy



Competence
Real-world skills and problem solving



Connection
Relationships and belonging



Adaptation
Flexibility and resilience



Purpose
Meaningful goals and valued roles



Quality of Life
Well-being and fulfillment



Transition success = Agency + Competence + Connection + Adaptation + Purpose + Quality of Life
Not independence at all costs.

More support. Brighter futures.

RESILIENCE • COMPASSION • OPPORTUNITY

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The Goldstein Resilience Perspective

Positive adult adaptation emerges from the interaction between multiple, interconnected factors.

PEOPLE
POTENTIAL
BRIGHTER
FUTURES

Drawing from the resilience framework developed by **Goldstein and Brooks**, positive adult adaptation emerges from the interaction between:



Individual characteristics



Experiences



Relationships



Environmental opportunities

Resilience develops through repeated experiences of:

- Success and mastery
- Problem solving
- Managing manageable adversity
- Supportive relationships
- Realistic expectations
- Personal responsibility
- Learning from mistakes
- Recognition of strengths
- Opportunities to contribute

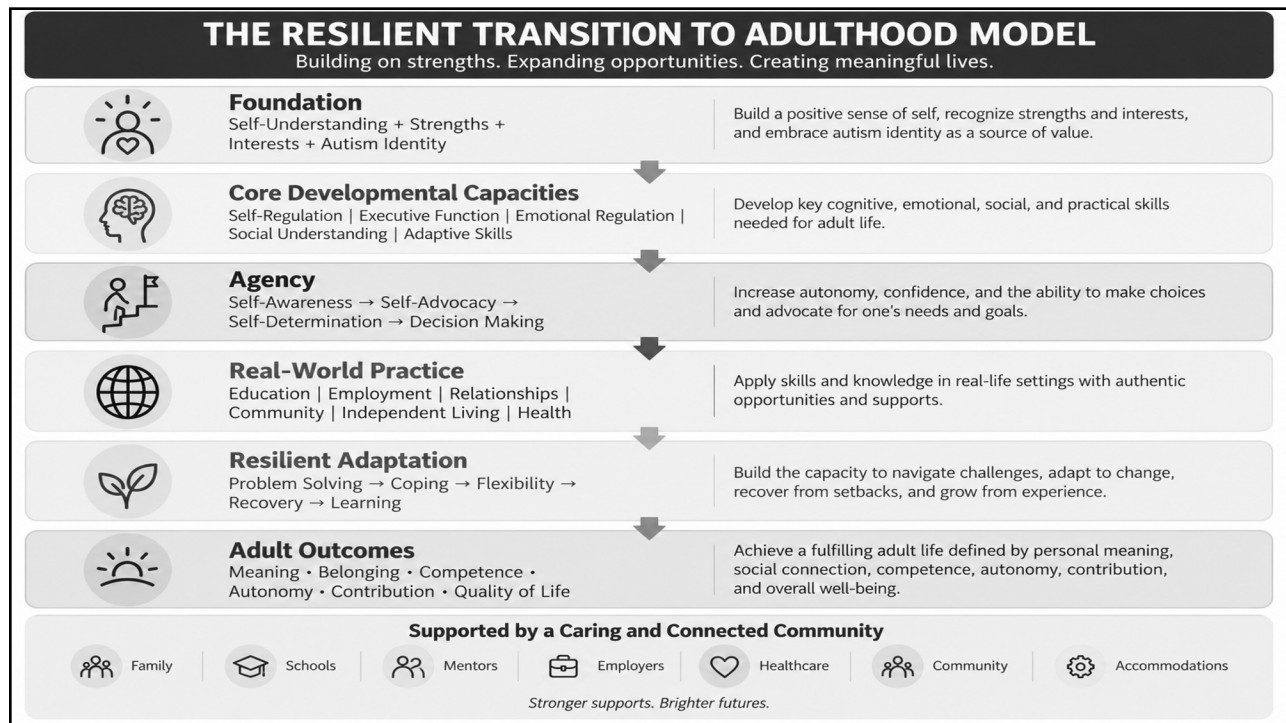


*Greater resilience.
More opportunities.
Brighter futures.*

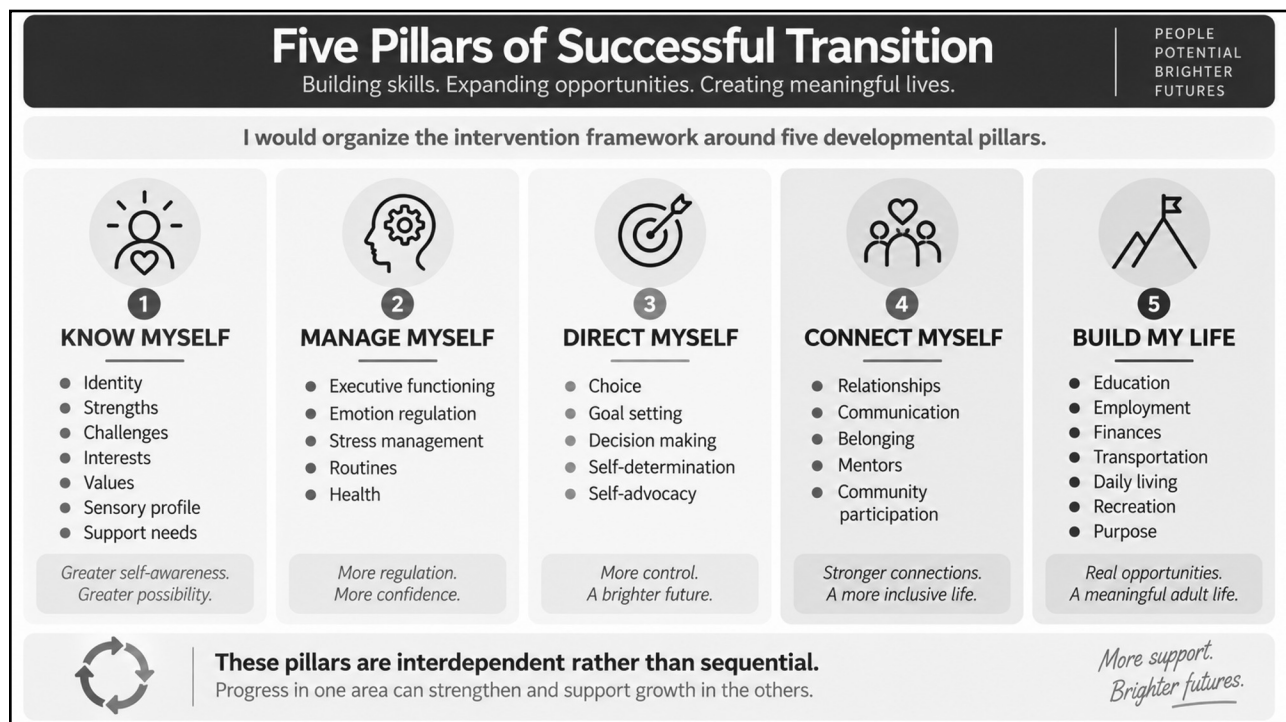


Transition planning should therefore build resilience— not merely remediate deficits.
By fostering strengths, supports, and real-world opportunities, we help autistic adolescents move toward meaningful, fulfilling adult lives.

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Pillar 1: KNOW MYSELF

Transition begins with self-understanding, not compliance.

PEOPLE
POTENTIAL
BRIGHTER
FUTURES

Why It Matters

The young person develops an increasingly accurate understanding of themselves.

Self-knowledge becomes the foundation for self-advocacy and a more meaningful adult life.



Greater self-awareness.
Greater possibility.

Key Questions for Self-Understanding

Encourage reflection on the following questions:

-  "What am I good at?"
-  "What is difficult for me?"
-  "What environments help me function well?"
-  "What overwhelms me?"
-  "How do I recognize stress?"
-  "What accommodations help?"
-  "What are my interests?"
-  "What kind of life do I want?"
-  "How does autism fit into my identity?"

From Insight to Empowerment

-  **Greater Self-Acceptance**
Understand and appreciate who I am.
-  **Informed Choices**
Make decisions that fit my strengths, needs, and values.
-  **Effective Self-Advocacy**
Communicate my needs with confidence.
-  **A Clearer Sense of Purpose**
Build a life that is meaningful to me.



Goal: Replace externally defined deficits with an increasingly coherent and useful **personal operating manual**.

More support.
Brighter futures.

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Pillar 2: MANAGE MYSELF

Building self-regulation skills for greater independence and success.

PEOPLE
POTENTIAL
BRIGHTER
FUTURES

Why It Matters

Adult environments depend heavily upon self-regulation and executive functioning.

The ability to manage one's thoughts, emotions, behaviors, and daily responsibilities is essential for success in education, work, relationships, and independent living.



More structure today.
More independence tomorrow.

Critical Competencies Include:

-  **Initiation**
Getting started on tasks.
-  **Planning**
Setting steps and anticipating what's needed.
-  **Organization**
Keeping materials, information, and spaces in order.
-  **Time management**
Using time effectively and meeting deadlines.
-  **Working memory**
Holding and using information in mind.
-  **Cognitive flexibility**
Adapting to new situations and changing demands.
-  **Inhibition**
Pausing and thinking before acting.
-  **Emotional regulation**
Managing emotions in healthy and constructive ways.
-  **Monitoring one's own performance**
Checking progress and adjusting as needed.
-  **Managing uncertainty and unexpected change**
Staying calm and flexible when plans change.

The Objective

Functional self-management, not perfect executive functioning.

"Progress, not perfection,
leads to real independence."

Intervention Principle

External structure should initially compensate for executive difficulties and then be systematically transferred to the young adult through:


Tools


Routines


Technology


Coaching


Practice

Support builds skills.
Skills build confidence.
Confidence builds independence.



With the right supports and practice, young adults can learn to manage themselves effectively and navigate the demands of adult life.

More skills.
Brighter futures.

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Pillar 3: DIRECT MYSELF

From support to self-determination — making informed choices for a meaningful future.

PEOPLE
POTENTIAL
BRIGHTER
FUTURES

A Developmental Shift

The journey toward self-determination involves a shift from:



Adults deciding FOR the young person
Protection and guidance



Adults deciding WITH the young person
Shared decision making



The young adult making decisions WITH support when needed
Increasing independence and confidence

Support changes, but the individual's voice remains central.

Key Skills to Develop

Empower the young person to take an active role in directing their life.

-  **Goal setting**
Identify and pursue meaningful goals
-  **Choice making**
Explore options and express preferences
-  **Decision making**
Weigh options and make informed decisions
-  **Problem solving**
Generate solutions and try new approaches
-  **Understanding consequences**
Consider potential outcomes
-  **Requesting accommodations**
Know what supports help and how to ask for them
-  **Communicating needs**
Clearly and confidently express needs
-  **Knowing when to seek help**
Recognize when support is needed
-  **Understanding rights and responsibilities**
Be informed, prepared, and empowered

What Self-Determination Looks Like



My life.
My direction.
My possibilities.

"Adult autonomy does not mean doing everything alone. It means having meaningful influence over the direction of one's life."

Supporting the Journey



Listen
Respect their voice.



Collaborate
Provide guidance and options.



Build confidence
Celebrate progress.

More choice. More confidence. A brighter future.



When young people are supported to direct their own lives,
they are more likely to build fulfilling, independent, and meaningful adult lives.

Same potential.
More possibilities.

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Pillar 4: CONNECT MYSELF

Resilience develops in relationships.

PEOPLE
POTENTIAL
PROGRESS



Relationships open doors to possibility.

Transition planning should intentionally cultivate:

-  **Family support**
Ongoing encouragement and understanding
-  **Peer relationships**
Friendships and social connection
-  **Mentors**
Guidance from trusted adults
-  **Workplace relationships**
Positive, supportive work environments
-  **Educational supports**
Teachers, advisors, and school community
-  **Community membership**
Participation in community life
-  **Romantic/intimate relationship knowledge when appropriate**
Healthy, informed understanding of relationships

A critical distinction:

Social success ≠ appearing neurotypical.

The goal is the ability to establish relationships that provide **belonging, reciprocity, safety, support, and meaning.**



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Stronger Connections.
Brighter Futures.

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Pillar 5: BUILD MY LIFE

PEOPLE
POTENTIAL
PROGRESS

Transition planning must move beyond the classroom.



*Real-world experience
today builds a more
independent tomorrow.*

Practice should include:



Paid or volunteer work
Build work skills and experience



Postsecondary environments
Explore college, trade, or training



Transportation
Learn to get around independently



Money management
Budgeting, banking, and spending



Shopping and meal preparation
Essential daily living skills



Scheduling appointments
Plan and manage commitments



Healthcare communication
Provide information and ask questions



Household responsibilities
Maintain a living space



Recreation and leisure
Pursue interests and well-being



Community navigation
Use local resources and services



**Asking unfamiliar adults
for assistance**
Build confidence and self-advocacy



**Handling mistakes and
unexpected problems**
Develop resilience and problem-solving

**Every adolescent should
accumulate real-world adult
experiences before adult
expectations become
unavoidable.**

*Experience
precedes
independence.*



SCIENCE • INSIGHT • BETTER LIVES

*More Experience.
Brighter Futures.*

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The Critical Mechanism: SUPPORTED RISK

PEOPLE
POTENTIAL
PROGRESS

Balanced challenge builds experience, confidence, and resilience.



Resilience cannot
develop if adults
**eliminate every
difficulty.**



But **overwhelming
failure** does not
build resilience
either.



The developmental
target is:
SUPPORTED RISK.

*Growth happens in the space
between overprotection and overwhelm.*



From Problem Solvers to Coaches



Problem Solvers

Step in
Fix problems
Remove obstacles
Prevent discomfort



Coaches

Provide guidance
Encourage attempts
Support reflection
Build problem-solving skills
Allow natural consequences

Supported risk gives young people
the opportunity to develop the **skills,
confidence, and resilience** needed
for a meaningful adult life.



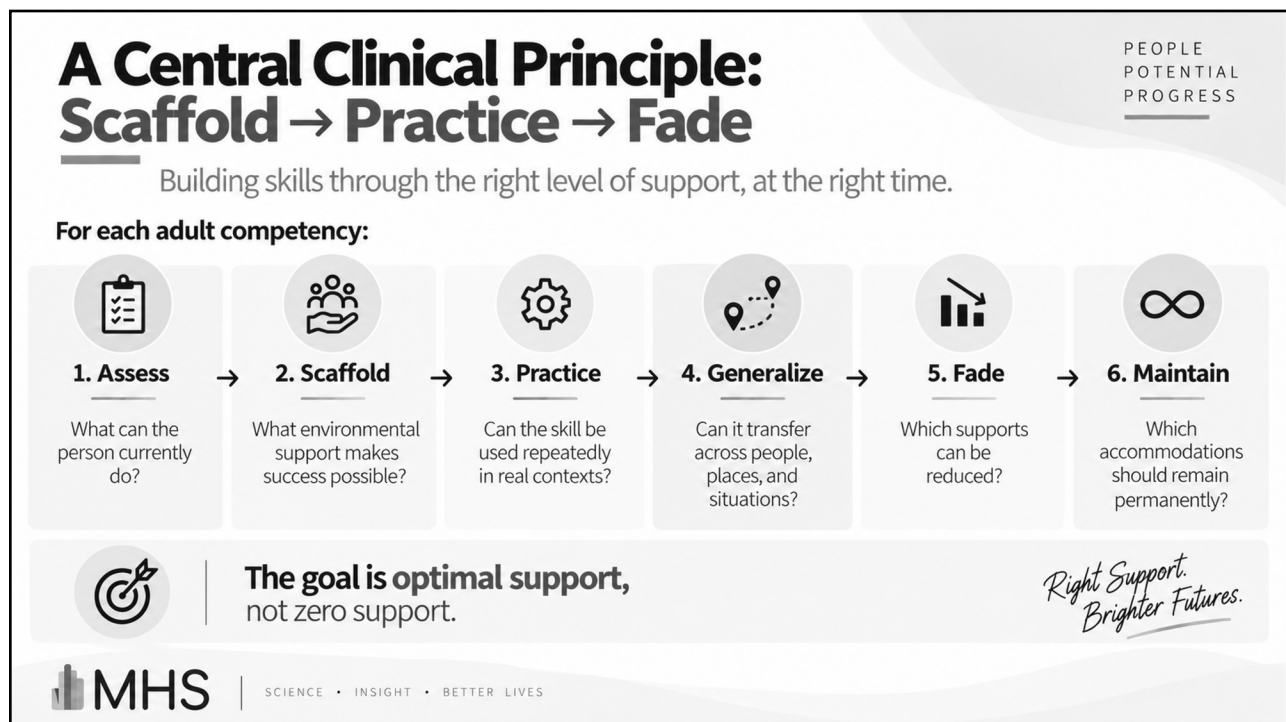
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*Stronger People.
Brighter Futures.*

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The Environment Is Part of the Model

Adult functioning cannot be understood solely as an attribute of the individual.

PEOPLE
POTENTIAL
PROGRESS



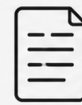
The same young adult may function very differently across settings.

Therefore ask:

- Is the task clearly defined?
- Are expectations explicit?
- Is sensory load manageable?
- Is adequate structure available?
- Are accommodations appropriate?
- Is there a predictable communication system?
- Is there a mentor or trusted adult?
- Does the environment utilize the person's strengths?



Sometimes changing the environment produces **greater improvement** than trying to change the individual.



This ecological emphasis is consistent with contemporary autism employment and community-participation research.



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*Supportive Environments.
Brighter Futures.*

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The Family Transition

The adolescent is not the only person making a transition.

PEOPLE
POTENTIAL
PROGRESS



Parents must gradually move from managing everything to empowering their adolescent to build an independent, meaningful adult life.

*Different roles.
Same support.
Brighter futures.*

Parents gradually move from:



This can be difficult because years of advocacy may have taught parents that successful parenting requires **anticipating problems**.



Transition requires a different task: **Allowing manageable problems to become opportunities for competence.**



The guiding question changes from:

"How do I prevent this problem?"



to:

"How much support does my child need to solve this problem?"



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*Stronger Families.
Brighter Futures.*

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Redefining Adult Outcomes

Success looks different for different people — and that's okay.

PEOPLE
POTENTIAL
PROGRESS



Avoid a single normative definition of adulthood.

Success should not be measured only by:

- College +
- Full-time employment +
- Independent apartment

Instead assess the person's trajectory across:



The outcome is not "normality."



The outcome is a sustainable, meaningful, self-directed adult life.



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*Different Paths.
Brighter Futures.*

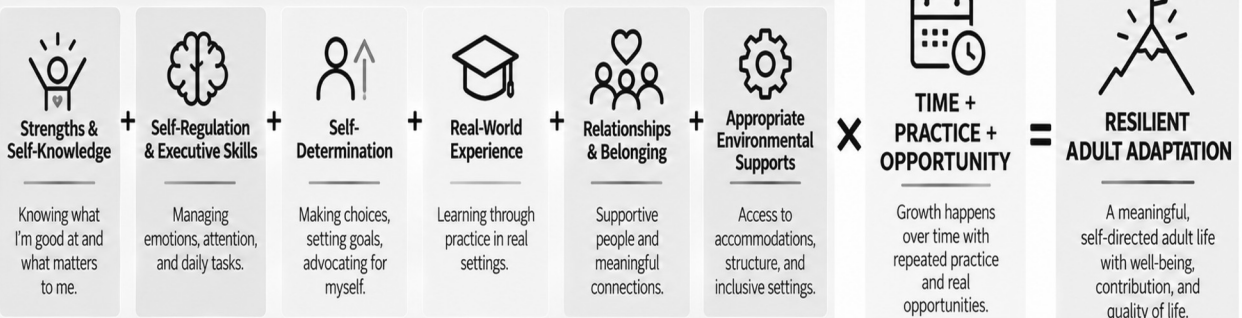
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A Simple Equation for the Framework

Key ingredients for a successful transition to a resilient adult life.

PEOPLE
POTENTIAL
PROGRESS

SUCCESSFUL TRANSITION



This gives you a memorable organizing equation for presentations.

*More Support.
Brighter Futures.*

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The Core Message

From deficits to possibilities — a strengths-based approach to transition.

PEOPLE POTENTIAL PROGRESS

We should not ask only:



“What skills does this autistic adolescent lack?”



Focusing only on deficits can overlook the potential, strengths, and opportunities for growth.

We should also ask:



What **strengths** can we build upon?



What **environments** allow this person to succeed?



What **supports** increase competence?



What **experiences** create mastery?



What **decisions** can the young person begin making?



What **meaningful adult roles** can be practiced now?



The goal of transition is **not simply independence.**

→



It is the capacity to build and sustain a **meaningful adult life.**

OPPORTUNITIES

BELONGING

A BRIGHTER TOMORROW

PEOPLE POTENTIAL PROGRESS

Different Paths. Brighter Futures.

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Ending Summary

From Understanding to Action — Supporting Meaningful Adult Lives

PEOPLE POTENTIAL PROGRESS

1. See the Whole Person



- Recognize strengths, interests, identity, and values.
- Understand that functioning depends on the person, task, environment, and support.
- The environment is part of the model.

Look beyond deficits. See potential.

2. Build Key Foundations



- Support self-regulation and executive skills.
- Foster self-determination and agency.
- Provide real-world experience and opportunities.
- Strengthen relationships and belonging.

Build on strengths. Create opportunities.

3. Use the Scaffold to Practice → Fade Approach



- Assess current abilities.
- Provide the right supports (scaffold).
- Enable repeated practice in real contexts.
- Support generalization across settings.
- Fade supports thoughtfully.
- Maintain necessary accommodations.

Optimal support — not zero support.

4. Involve and Empower Families



- Help parents shift from Manager → Organizer → Coach → Consultant.
- Allow manageable problems to become opportunities for competence.
- Encourage the young person to make decisions and take an active role in their life.

From protection to empowerment.

5. Redefine Adult Outcomes



- Move beyond a single normative definition of adulthood.
- Consider multiple domains: well-being, meaningful activity, employment/education, relationships, community participation, health, safety, financial competence, autonomy, purpose, and quality of life.

A meaningful life looks different for everyone — and all are valid.

OPPORTUNITY

BELONGING

PURPOSE

FINAL THOUGHT

The goal of transition is not simply independence. It is the capacity to build and sustain a meaningful adult life.



Different Paths.



Brighter Futures.



A More Inclusive World.

People Potential Progress

TODAY'S SUPPORT. TOMORROW'S OPPORTUNITIES.

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Devin

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 bolder, a pleasure to the beholder

Ooh! Ahh! Look at this one! Come quick!

Pockets bulge with fragments and paint cans run dry

But the grey rock remains ignored

An ugly blotch on a sweeping mural

The sun sets, everyone leaves

And they miss the centerpiece of the field

For when night falls, the grey rock in the center

It glows in the dark



*Sometimes what is overlooked in the daylight
shines most brightly in its own time.*

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From Early Childhood to Adulthood in Autism

THE UNIVERSITY OF UTAH®

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Today's conversations
build brighter tomorrows.

Support. Assess. Empower. Transition.

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