Inclusion and Social Engagement of Students with Autism: Evidence-Based Practices

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Points of Commonality Across Countries

Pearls Before Swine by Stephan Pastis

THE MORNING RITUAL
WAKING UP TO A NEW DAY
A WARM CUP O’ JOE
A PLEASANT WALK OUTSIDE
The internet.
What is Autism?

Box 1: ASD as defined in DSM-5

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria for autism spectrum disorder (ASD) comprise five symptom clusters (A–E).

A. Social communication and social interaction
   * Must have evidence across multiple contexts of all of the following three subdomains currently or by history:
     - Social reciprocity
     - Non-verbal communication
     - Developing, maintaining, and understanding relationships

B. Restricted, repetitive behaviours and interests
   * Must have evidence of two of four of the following subdomains currently or by history:
     - Stereotyped, repetitive behaviours
     - Insistence on sameness
     - Highly restricted, fixed interests
     - Hypersensitivity or hyposensitivity or interest in sensory inputs

C. Symptoms must be present in early development but may not fully manifest until later or may be masked later in life by learned strategies

D. Symptoms must cause clinically significant impairment in current functioning

E. Not better explained by intellectual disability or global developmental delay

Note: previously established DSM-IV diagnoses of any pervasive developmental disorder, including Asperger’s disorder, should be assumed to be equivalent to DSM-5 ASD. ASD may co-occur with many other disorders, including attention-deficit/hyperactivity disorder, intellectual disability, language delay and genetic syndromes.

* Adapted from REF.

Lord et al. (2020)

Steinbrenner et al. (2020)
Estimated Autism Prevalence 2018

- 1 in 166* in '04
- 1 in 150* in '06
- 1 in 125* in '08
- 1 in 110* in '10
- 1 in 88* in '12
- 1 in 68* in '14
- 1 in 59* in '16

* Centers for Disease Control and Prevention (CDC) prevalence estimates are for 4 years prior to the report date (e.g., 2018 figures are from 2014)
Interventions
Evidence-based
Research
Education
Evaluate
Effectiveness
Rigor
“Cutting Edge Interventions for Autism”  
(Seri & Lyons, 2014)

- Antifungal treatment
- Aquatic therapy
- Auditory integration therapy
- Chelation removal of toxic metals
- Craniosacral and chiropractic therapy
- Dietary interventions
- Hippotherapy
- Hyperbaric oxygen therapy
- Medicinal marijuana
- Neuro-Immune dysfunction and antiviral therapy
- Rapid prompting/facilitated communications
- Sensory gym
- Traditional and indigenous healing
- Stem cell therapy
- Transcranial direct current stimulation
Our NEW and much anticipated report on Evidence-Based Practices is complete and ready for you. View Report >

BRIDGING SCIENCE AND PRACTICE

The National Clearinghouse on Autism Evidence and Practice (NCAEP) is a continuation of the systematic review completed by the National Professional Development Center on Autism Spectrum Disorders (NPDC).

LEARN MORE

2020 EVIDENCE-BASED PRACTICES REPORT

Evidence-Based Practices for Children, Youth, and Young Adults with Autism

Our new report synthesizes intervention research published between 1990 and 2017. Check out our findings here.

DOWNLOAD HERE

AUTISM FOCUSED INTERVENTION RESOURCES AND MODULES

The Autism Focused Intervention Resources and Modules (AFIRM) are a free online tool designed to ensure that practitioners and families can use these practices once they are identified through the review.

LOGIN
FPG Autism Team

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"Evidence-based medicine (EBM) requires the integration of the best research evidence with our clinical expertise and our patient's unique values and circumstances."

-- David Sackett, 1996
Intervention Approaches

Comprehensive Treatment Models

set of practices designed to achieve a broad learning or developmental impact on the core deficits of ASD

Focused Intervention Practices

designed to address a single skill or goal of a student with ASD
First Generation

• Reviewed literature from 1997-2007
• Included only focused intervention practices
• 24 EBPS

Evidence-Based Practices in Interventions for Children and Youth with Autism Spectrum Disorders

Samuel L. Odom, Lana Collet-Klingenberg, Sally J. Rogers, and Deborah D. Hatton
Second Generation

• Reviewed literature from 1990-2011
• 454 acceptable articles
• 27 EBPs
Access free AFIRM online modules and resources for each of the 27 evidence-based practices identified by the National Professional Development Center on Autism Spectrum Disorder (ASD). Sign up now.

Free COVID-19 Toolkit:
Free resources for supporting children and youth with ASD during uncertain times such as COVID-19 social narratives, hand washing task analysis, and calming strategies.

Earn a free professional development certificate for completing each EBP module
Learn with AFIRM through engaging case examples, videos, and interactive assessments
Download resources and materials that support your use of EBPs with children and youth with ASD

View modules
Find out more
View Resources
3rd Generation of Evidence-based Review
Evidence-Based Practices for Children, Youth, and Young Adults with Autism: Third Generation Review

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Figure 3.2. Number of articles included in each review period

- 2012–2017 Review Period: 545 articles
- 1990–2017 Review Period: 972 articles
Figure 1.2 Trends in autism intervention research

The chart illustrates the number of high-quality articles with positive effects for evidence-based practices from 1990 to 2017. There is a clear upward trend over the years, indicating an increase in research publications on autism interventions.
Criteria for Evidence-Based Practices

- **2+ group design studies**
  - Two high quality group design studies conducted by at least two different researchers or research groups

- **5+ single case design studies**
  - Five high quality single case design studies conducted by three different investigators or research groups and having a total of at least 20 participants across studies

- **Combination of evidence**
  - One high quality group design study and at least three high quality single case design studies conducted by at least two different investigators or research groups (across the group and single case design studies)
EBPs: Basic Applied Behavior Analysis Practices

- Reinforcement
- Prompting
- Time Delay
- Modeling
EBPs: Applied Behavior Analysis--Assessment

- Functional Behavior Assessment
- Task Analysis
EBPs:
Behavioral Instruction

- Discrete Trial Training
- Direct Instruction
- Behavioral Momentum
EBPs: Positive Behavior Intervention and Supports

- Antecedent Intervention
- Redirection
- Extinction
- Differential Reinforcement of Other Behavior
- Functional Communication Training
EBPs: In Natural Environments

**Naturalistic Intervention**
- JASPER
- Milieu Teaching
- Pivotal Response Training

**Parent-implemented Interventions**
- Project ImPACT
- Stepping Stones (Triple P)
EBPs: Social and Communication

Social Skills Training

PEERS®

Peer-based Interventions
EBPs: Social and Communication

Social Narratives
Social Stories™

AAC
PECS®
EBPs: Visually-based

- Visual Supports
- Video Modeling
EBPs: Cognitive-Based

Cognitive Behavior Intervention

Self-management
EBPs: Modality Specific

- Exercise and Movement
- Music-mediated intervention
- Sensory Integration
  Ayres Sensory Integration®
EBPs: Technology

Technology Assisted Instruction and Intervention

Face Say ®
Mindreading
What EBPs Promote Social Engagement?
Naturalistic Interventions

• Select the activities in the day in which there are opportunities for interaction
  • Centers-time (free choice time) in classrooms
  • Snack time
  • Cooperating learning groups

• Arrange the activity
  • Seating
  • Expectations

• Observe to ensure interaction is occurring
Visual Supports

• Images with text that prepare children for play time with peers
Visual Supports and Social Narratives

• Most well known as Social Stories
• Teacher writes a story about the student and engagement during a social activities
  • Lunch
  • Free time
• Student reads a story or teacher reads to him/her
Video-modeling

• May be video of student himself or other peer engaging in interaction
  • Teacher takes video, perhaps on camera
• Introduces to student social goal
  • Completing a task together
  • Pretend play
  • Playing a board game
• Teacher shows video to student
• Student then has opportunity to engage in task
Social Skills Training

• Structured play groups
  • Form groups in classes
  • Teacher provides scaffolding or prompts for interaction

• Group-based skills training
  • Playtime/Social Time for preschool children
  • PEERS for adolescents
Peer-based Interventions

• Peer social networks
• Peer-mediated instruction
Peer Networks: Three Years Later

- During the in-school year of 2019-2020, 8-10 groups operating at any one time
- During COVID 2020-2021, virtual peer networks
Conclusions

• Social engagement with peer group is one marker for successful inclusion for children/youth with autism and other disabilities
• It does not happen automatically; it has to be planned.
• EBPs have been identified that support social engagement
• Takes the motivation and effort of school staff to provide the supports needed.