Examining Treatment Implementation in Secondary Education Settings for Students with ASD

Kara Hume, Ph.D. 1, Jessica Dykstra-Steinbrenner 1, Leann Smith, Ph.D. 2 & Samuel Odom, Ph.D. 1

1 Frank Porter Graham Child Development Institute, University of North Carolina, Chapel Hill
2 Waisman Center, University of Wisconsin, Madison

About CSESA

The Center on Secondary Education for Students with Autism Spectrum Disorder (CSESA) is a 5-year research and development project that focuses on developing, adapting, and studying a comprehensive school- and community-based education program for high school students on the autism spectrum. The CSESA Model consists of the 5-phase CSESA process (see diagram below) that addresses 4 CSESA domains using 11 CSESA interventions (see implementation section).

Background

CSESA is a complex social intervention and requires thorough measurement of implementation, including an assessment of project resources (e.g., training and coaching), project activities (e.g. implementation of CSESA interventions), and project outcomes (e.g. student performance on standardized measures).

With consultation from Dr. Dave Cordray, the CSESA team developed an implementation index that includes:
- Individual fidelity measures per component designed to:
  - Measure adherence, dosage, and quality of delivery for each component
  - Differentiate between CSESA and non-CSESA interventions (counterfactual)
- Process fidelity measure designed to:
  - Capture the larger CSESA process including professional development, assessment, planning, implementation, and outcomes

Research Question

The pilot years of the study were used to develop and assess the fidelity tool to capture the complex, comprehensive intervention program. The research question was:

Do CSESA fidelity measures discriminate between sites implementing and not implementing program features?

Participants

- 6 schools across 5 different states
- School staff (n=56)
  - Autism team of special education teachers, general education teachers, administrators
- Students (n=43)
  - 6-8 per school
  - Educational label of autism

Fidelity Procedures

The implementation index was administered by project staff in 4 steps to gather data about:

1. Interview Phase
   - Determine programmatic and standard level implementation
   - Interview about training, coaching, and monitoring
   - Autism Team lead and Autism Site
2. Planning
   - Clearly identify standards and plans for observation
   - Identify standards monitoring intervention (and only visit)
   - Autism Team lead and Autism Site
3. Observations
   - Assess adherence, design, and quality
   - Observe student receiving each intervention
   - School staff
4. 4D Reviews
   - Assess quality of transition plan
   - Review transition plan with rubric
   - N/A

Study Design

Researchers used a contrasting features design, in which each site served as both an intervention and control for different features (domains) of the CSESA Model.

Each of the four CSESA domains were designated to be piloted at 3 different sites in order to assess every possible combination of the CSESA domains.

CSESA Implementation

Autism team members at schools received the following RESOURCES across a 1 year period:

- TRAINING
  - Introduction to CSESA training
  - Goal Attainment Scale training
  - CSESA Intervention trainings

- COACHING
  - Goal Attainment Scale
  - CSESA Interventions

- MATERIALS
  - Intervention manuals
  - On-line resources

The data indicate clearly that the CSESA fidelity measures discriminate between the CSESA and contrast conditions. The structured social skills group, SC-H, had the highest level of implementation, with work based learning (WBLE) implemented at the lowest level. The transition plans were most similar across the CSESA and contract conditions.

Fidelity Measures

Key Features

AVOID BIAS: Determine all students who receive a given intervention and randomly select one student accessing state-wide and alternate assessments

ASSESS PROGRAM AND INDIVIDUAL: Measures school-level (e.g., training, coaching) and student-level intervention implementation (individual fidelity observations)

CONSISTENCY OF MEASURES: Observation measures for implementation, and outcomes

CSESA Domains

- Academic
- Independence & Behavior
- Peer & Social Competence
- Transition & Families

CSESA Intervention

- Autism
- Social
- Individual

Findings

Conclusion

- The measure of implementation of complex social interventions must be systematic and should include clear specification of the intervention model (including identifying project resources and activities, as well as methods to measure all aspects).
- Fidelity measures should measure intervention components in the control condition, as demonstrated in this examination.
- The implementation index is currently in use the RCT of CSESA across 60 schools in three states.

References


Acknowledgments

The research was supported by the Institute of Education Sciences, U.S. Department of Education through Grant R305C080006 awarded to UNC-Chapel Hill. The opinions expressed represent those of the authors and do not represent views of the Institute or the U.S. Department of Education.