Evidence-Based Intervention Practices for ASD:
A New Report

Just released this month is a new report on evidence-based intervention practices for individuals with ASD, compiled by a group from the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill (Wong et al., 2013). Entitled “Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder,” the report represents an update and extension of a previously published review (Odom, Collet-Klingenberg, Rogers, & Hatton, 2010), considering both earlier and more recent papers than were previously included and following an evaluation process that the authors characterize as more rigorous. The review examined articles “published in peer-reviewed, English language journals between 1990 and 2011” that “tested the efficacy of focused intervention practices” (p. 9). The review does not include investigations of comprehensive treatment models (e.g., UCLA Young Autism Program, TEACCH Program, LEAP Model, Denver Model); another relatively recent review paper has examined the published data on a number of such comprehensive treatment programs (Odom, Boyd, Hall, & Hume, 2010).

Papers were considered for inclusion in the “Evidence-Based Practices . . .” report if they focused on behavioral, developmental or educational interventions. The review did not include reports of interventions that involved medication only, alternative or complementary medicine, nutritional supplements or special diets, or practices requiring highly specialized materials, equipment, or locations. In order to be included, studies must have compared the target intervention to some other condition in which the intervention was not offered, and must have targeted behavioral, developmental, or academic outcomes. Studies with experimental group designs, quasi-experimental designs, or single-case designs were considered.

The report identifies twenty-seven practices that met the authors’ criteria as evidence-based interventions . . .

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The selection process began with a pool of 29,106 papers, generated by searches employing the terms “autism or Asperger or pervasive developmental disorder” and “intervention or treatment or practice or strategy or therapy or program or procedure” (p. 11). This pool was narrowed in sequential steps by title review, abstract review, and full-text review, yielding 456 papers that met criteria for inclusion in the evidence base. Each paper was then placed in a category, based on the type of intervention it investigated (e.g., discrete trial teaching, pivotal response training, etc.).

Finally, based on reviews of the papers in each intervention category, the intervention was determined to be evidence-based if “it was supported by: (a) two high quality experimental or quasi-experimental design studies conducted by two different research groups, or (b) five high quality single case design studies conducted by three different research groups and involving a total of 20 participants across studies, or [if] (c) there is a combination of research designs that must include at least one high quality experimental/quasi-experimental design, three high quality single case designs, and be conducted by more than one researcher or research group.” (p. 16)

The report identifies twenty-seven practices that met the authors’ criteria as evidence-based interventions (see the list of evidence-based practices in Table 1). Interventions are further characterized in the report according to the range of outcomes they yielded (e.g., social, communication, challenging/interfering behaviors, joint attention, etc.), and by the age of the participants in the studies.

Twenty-four additional focused intervention practices were identified as having some empirical support (for example: behavioral momentum interventions, direct instruction, independent work systems, joint attention and symbolic play instruction, and others), but these did not meet the methodological criteria established for the review.

Five evidence-based intervention practices (identified by an asterisk * in Table 1) had not been so-designated in the authors’ earlier review and were included on the basis of more accumulated evidence; two previously identified practices were combined and re-conceptualized as “Technology-Aided Instruction and Intervention” and one practice previously designated as evidence-based (Structured Work Systems) failed to meet the more stringent criteria employed in this review.

Table 1. Evidence-Based Practices

- Antecedent-based intervention
- Cognitive behavioral intervention*
- Differential reinforcement of Alternative, Incompatible, or Other Behavior
- Discrete trial teaching
- Exercise*
- Extinction
- Functional behavior assessment
- Functional communication training
- Modeling*
- Naturalistic intervention
- Parent-implemented intervention
- Peer-mediated instruction and intervention
- Picture Exchange Communication System
- Pivotal response training
- Prompting
- Reinforcement
- Response interruption/ redirection
- Scripting*
- Self-management
- Social narratives
- Social skills training
- Structured play group*
- Task analysis
- Technology-aided instruction and intervention
- Time delay
- Video modeling
- Visual support
The report, which is available online\(^1\), also includes a fact sheet for each of the twenty-seven evidence-based practices with a brief description of the intervention, the ages of individuals for whom the practice has been investigated, the type of outcomes addressed by the intervention, and references for the papers that supplied the evidence of efficacy.

**Conclusion**

The “Evidence-Based Practices . . .” report represents a useful update to the literature on empirically supported intervention approaches. Of particular interest is Table 8 in the report which signals, for each category of intervention, the presence (or absence) of published research for a number of outcomes as well as the age range of individuals for whom the intervention has been shown to be efficacious. Thus, for example, if one is interested in evidence-based practices for 6-14 year olds targeting vocational outcomes, one can easily see that there are five effective approaches represented in the treatment literature: Discrete Trial Teaching, Reinforcement, Scripting, Technology-Aided Instruction and Intervention, and Video Modeling.

Any undertaking of this magnitude is inevitably imperfect. First, it is limited by the quality and scope of published research; despite the veritable explosion of autism-related research in the last two decades, there are interesting and potentially promising intervention approaches that have not yet established a sufficient published base of empirical support to meet criteria for inclusion in the present evidence-based practices list. Further, a work such as this that seeks to be comprehensive is quickly out-dated; while it reflects the literature appearing between 1990 and 2011, it cannot speak to reports published in the past two years and the discrepancy grows with each passing month and the appearance of each new intervention research report.

Nonetheless, for those responsible for developing, implementing, or supervising intervention services for individuals with ASD, the “Evidence-Based Practices . . .” report provides a solid empirical foundation on which to base a treatment or education program.

References

