

<p><b>Resource Title</b></p>	<p><b>Cognitive Behavioral Intervention (CBI) for Individuals with ASD</b></p>
<p><b>What is it?</b></p>	<p>Definition from: National Professional Development Center on Autism Spectrum Disorders March 2014 Report, <i>Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder</i> (<a href="http://autismpdc.fpg.unc.edu/">http://autismpdc.fpg.unc.edu/</a>):</p> <p>“Cognitive behavioral intervention (CBI) is based on the belief that behavior is mediated by cognitive processes. Learners are taught to examine their own thoughts and emotions, recognize when negative thoughts and emotions are escalating in intensity, and then use strategies to change their thinking and behavior. These interventions tend to be used with learners who display problem behavior related to specific emotions or feelings, such as anger or anxiety. Cognitive behavioral interventions are often used in conjunction with other evidence-based practices including social narratives, reinforcement, and parent-implemented intervention.”</p>
<p><b>Purpose(s)</b></p>	<p>CBI can be used effectively to address social, communication, behavior, cognitive, adaptive, and mental health outcomes for individuals with ASD.</p>
<p><b>Intended Implementer(s)</b></p>	<p>Professionals who are trained and experienced in CBT/I and ASD. CBI for ASD is sometimes implemented as a collaborative effort in clinic sessions, school and/or home in individual and/or group contexts (e.g., mental health professional, educators, speech-language pathologists, school psychologists, parents, etc.)</p>
<p><b>Applicable Population(s) / Grade Levels</b></p>	<p>According to the NPDC March 2014 report evidence-based studies, this intervention has been effective for elementary school-age learners (6-11 years) to high school-age learners (15-18 years) with ASD.</p>
<p><b>Source of Products or Websites</b></p>	<p><b>National Professional Development Center on ASD March 2014 Report, Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder:</b>            Cognitive Behavioral Intervention (CBI) Fact Sheet            Brock, M. E. (2013), Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.  <a href="http://autismpdc.fpg.unc.edu/">http://autismpdc.fpg.unc.edu/</a></p>

<p><b>Source of Products or Websites</b> (continued)</p>	<p><b>Research Studies Providing Evidence (CBI meets evidence-based criteria with 3 group design and 1 single case design studies):</b></p> <ol style="list-style-type: none"> <li>1. Drahota, A., Wood, J. J., Sze, K. M., &amp; Van Dyke, M. (2011). Effects of cognitive behavioral therapy on daily living skills in children with high-functioning autism and concurrent anxiety disorders. <i>Journal of Autism and Developmental Disorders</i>, 41(3), 257-265. doi: 10.1007/s10803-010-1037-4</li> <li>2. Singh, N. N., Lancioni, G. E., Manikam, R., Winton, A. S., Singh, A. N., Singh, J., &amp; Singh, A. D. (2011). A mindfulness-based strategy for self-management of aggressive behavior in adolescents with autism. <i>Research in Autism Spectrum Disorders</i>, 5(3), 1153-1158. doi:10.1016/j.rasd.2010.12.012</li> <li>3. Sofronoff, K., Attwood, T., &amp; Hinton, S. (2005). A randomised controlled trial of a CBT intervention for anxiety in children with Asperger syndrome. <i>Journal of Child Psychology and Psychiatry</i>, 46(11), 1152-1160. doi: 10.1111/j.1469-7610.2005.00411.x</li> <li>4. Sofronoff, K., Attwood, T., Hinton, S., &amp; Levin, I. (2007). A randomized controlled trial of a cognitive behavioural intervention for anger management in children diagnosed with Asperger syndrome. <i>Journal of Autism and Developmental Disorders</i>, 37(7), 1203-1214. doi: 10.1007/s10803-006-0262-3</li> </ol>
<p><b>More Information</b></p>	<p><b>How did Cognitive Behavioral Intervention (CBI) become an Evidence-Based Practice for ASD?</b></p> <ul style="list-style-type: none"> <li>• The National Professional Development Center (NPDC) on Autism Spectrum Disorders (ASD) published the report, <i>Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder</i>, in March 2014 and is available online at: <a href="http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/2014-EBP-Report.pdf">http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/2014-EBP-Report.pdf</a></li> <li>• The purpose of this current NPDC review is to identify <i>focused intervention</i> practices that have evidence of effectiveness in promoting positive outcomes for learners with ASD. Articles included in this review were published in peer-reviewed, English language journals between 1990 and 2011 and tested the efficacy of focused intervention practices.</li> </ul>

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- 27 EBPs were identified and **Cognitive Behavioral Intervention (CBI) is designated as an EBP** that service providers and teachers may select when designing an individualized education or intervention program.
- CBI meets evidence-based criteria included 3 group design and 1 single case design studies.
- According to the evidence-based studies, CBI has been effective for elementary school-age learners (6-11 years) to high school-age learners (15-18 years) with ASD and can be used effectively to address social, communication, behavior, cognitive, adaptive, and mental health outcomes.
- Cognitive Behavioral Interventions are often used in conjunction with other Evidence-Based Practices including:
  - social narratives/social stories
  - social skills training
  - reinforcement
  - parent-implemented intervention
  - self-regulation
  - visual supports/schedules
  - special interests

**Does the NPDC have information and/or guidelines about CBI for ASD available or on the way?**

- **CBI Fact Sheet**
  - Appendix 2 of the NPDC March 2014 report contains a CBI Fact Sheet that includes the definition of CBI, the type of outcomes it has generated, the age range of participants, and citations for the specific articles that provide the evidence for the efficacy of the practice.
- **CBI Brief**
  - Although the NPDC has EBP “briefs” for the first round of 24 identified EBPs, CBI is a brand new EBP as of March 2014. The NPDC anticipates that the CBI Brief (i.e., a file that contains key documents including an overview of the practice, evidence-base for the practice, step-by-step implementation strategies, and implementation checklists for fidelity) will be available in the Fall of 2015 and posted on the NPDC website <http://autismpdc.fpg.unc.edu/>.

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- **Autism Internet Module**
  - The NPDC anticipates that an Autism Internet Module (online learning module) will be available in the Fall of 2015 at [www.autisminternetmodules.com](http://www.autisminternetmodules.com).
- **Peer Reviewed Journal Articles**
  - The specific articles that demonstrated the evidence for the efficacy of the EBP of CBI are listed above and in the CBI Fact Sheet.

**In general, can you describe CBI for ASD?**

Traditional CBT/I tends to require strong linguistic and abstract thinking abilities and these can be a challenge for individuals with ASD.

Researchers have been developing modifications to make it more effective with individuals with an ASD by making it better suited to the learning styles of individuals with ASD, for example, by making it more repetitive, visual, and concrete.

Also, generally, CBT programs for youth with ASD have been clinic based and have not specifically and/or typically included a school component as well as working collaboratively with others involved in the individual's treatment and education (e.g., parents and school personnel) as a modified CBT/I might.

Here are just a few examples of what the current research is showing as to how to include EBPs for ASD in an individualized modified CBI:

- Instead of just asking the individual with ASD to verbally rate their anxiety on a scale of 1 to 10, the interventionist might use the **EBPs of Visual Supports and Self-Regulation** (i.e. a graphic representation of a thermometer showing anxiety from low to high would be presented to which the individual would point to show how high their anxiety is around a certain situation; another tool would be the Incredible 5 Point Scale.)
- Incorporating the **EBP of Special Interests** in the sessions to motivate children to engage in treatment activities. For example, using favorite cartoon characters to model coping skills, or interspersing conversations about their special interest throughout treatment sessions to promote motivation and engagement.

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- Including social skills development and implementing the **EBPs of Social Narratives/Social Stories and Social Skills Training** would give the individual increased skills to be socially successful because the core social deficits of individual's with ASD contribute to the experience of anxiety, which then serves to intensify the social problems.
- Incorporating peer supports such as the **EBP of Peer Mediated Instruction and Intervention**.
- Decrease making verbal demands and also incorporating the use of the **EBP of Visual Supports/Schedules**. For example, a written or graphic weekly agenda showing when each session will occur and the detailed structure of each session allows the individual with ASD to predict activities and breaks throughout the session.
- Including the **EBP of Reinforcement** to keep the individual with ASD motivated and engaged.
- Working with parents collaboratively because **Parent-implemented Intervention is an EBP** for individuals with an ASD.

**What information is available now for modified CBI?**

- For now, it's advised that you read the aforementioned peer reviewed articles to learn about the research that demonstrated efficacy for CBI and ASD.
- However, within those peer reviewed articles are references to modified CBT/I programs. One example is a modified version of CBT by Clinical Psychologist Jeffrey Wood, Ph.D. of the Center for Autism research and Treatment at UCLA. This modified CBT/program is described in the 2009 article, *Cognitive Behavioral Therapy For Anxiety In Children With Autism Spectrum Disorders: A Randomized, Controlled Trial*, Journal of Child Psychology and Psychiatry, 50, 224–234, Wood, J. J., et.al. available at:  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4231198>
  - Wood, et.al. developed an enhanced CBT program by expanding the traditional aspects of existing CBT treatments for anxiety in typically developing children by:

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- including a school consultation component
- incorporating concurrent skill building in core ASD symptoms suspected to contribute to anxiety symptomatology (e.g., social skills or preoccupation with restricted interests)
- providing in vivo parent training to address both the complex needs of youth with ASD and promote generalization of skills to school and community settings
- targeting aspects of ASD that contribute to school adjustment—for example, providing skills and support for building friendships that can lead to inclusion in activities and games, and a more satisfying daily routine.