

Annotated Bibliography on Various Therapies Offered to Individuals on the Autism Spectrum at the Chattanooga Autism Center

Throughout my time as a clinical intern at the Chattanooga Autism Center (CAC) I have had the opportunity to observe and research about the various therapies offered at this agency. I have had the opportunity to not only observe but practice cognitive behavioral therapy (CBT) with clients throughout this experience. The other half of the clinic hosts the clinic's applied behavioral analysis team (ABA). I have had the pleasure to observe multiple ABA sessions here at the CAC. The center also provides music therapy to individuals on the spectrum as well. This annotated bibliography seeks to understand literature on how these various therapies are beneficial to individuals with ASD.

Cognitive Behavioral Therapy (CBT)

Wise, J. M., Cepeda, S. L., Ordaz, D. L., McBride, N. M., Cavitt, M. A., Howie, F. R., Scalli, L., Ehrenreich-May, J., Wood, J. J., Lewin, A. B., & Storch, E. A. (2019). Open trial of modular cognitive-behavioral therapy in the treatment of anxiety among late adolescents with autism spectrum disorder. *Child Psychiatry and Human Development*, 50(1), 27–34. <https://doi-org.ezproxy.southern.edu/10.1007/s10578-018-0817-5>

- This article discusses that 1 in 68 individuals in the United States is impacted by autism spectrum disorder (ASD). The authors write about how important it is to identify appropriate interventions to promote successful outcomes among individuals on the spectrum.
- This was a study done on adolescents and young adults on the spectrum who also struggle with anxiety. These participants engaged in 16 weeks of CBT in face-to-face sessions. After these 16 weeks, participants concluded that the symptoms they had once exhibited had “much improved” since the beginning of the study.
- Participants and families reported that they frequently used the parts of the treatment that they were taught in the study even after the study had concluded to help reduce their levels on anxiety.

Kose, L. K., Fox, L., & Storch, E. A. (2018). Effectiveness of cognitive behavioral therapy for individuals with autism spectrum disorders and comorbid obsessive-compulsive disorder: A review of the research. *Journal of Developmental and Physical Disabilities*, 30(1), 69–87. <https://doi-org.ezproxy.southern.edu/10.1007/s10882-017-9559-8>

- The authors of this article recognize that CBT with individuals with ASD has become very prominent, but also that it looks different for each individual and their needs. CBT also addresses social and communication difficulties, cognitive rigidity, difficulties with identifying and expressing emotions, as well as difficulties in generalization faced by individuals with ASD.
- 170 participants received CBT treatments across these 11 studies. These studies lasted over a period of 9 to 21 weeks with sessions ranging from 35 minutes to 2 hours long in a clinic or therapist's office.

- The results from this study concluded that using CBT with individuals with ASD and OCD showed multiple benefits. This was seen by reduced symptom severity from participants and parent questionnaires.
- The study did also conclude that one way and method of CBT does not work for each person. CBT must be modified and altered depending on the individual receiving the treatment.

Applied Behavior Analysis (ABA)

Leaf, J. B., Leaf, R., McEachin, J., Cihon, J. H., & Ferguson, J. L. (2018). Advantages and Challenges of a Home- and Clinic-Based Model of Behavioral Intervention for Individuals Diagnosed with Autism Spectrum Disorder. *Journal of Autism & Developmental Disorders*, 48(6), 2258–2266. <https://doi-org.ezproxy.southern.edu/10.1007/s10803-017-3443-3>

- This article states that for over 60 years researchers and clinicians have shown the effectiveness of using applied behavioral analysis (ABA) for individuals diagnosed with ASD. Strategies that are included in ABA are reinforcement paradigms, shaping, punishment, and prompting.
- Home-based models of ABA have potential advantages such as more parent involvement, accountability, daily living and self-help skills, generalization, as well as being potentially more cost effective. Potential challenges could be family dynamics, dual relationships, logistical pressures, as well as a lack of support.
- Clinic-based models of ABA also have advantages like the staff being connected, logistics, group instruction, social opportunities, and having a parental social network. Challenges may be the cost, generalization, lack of parent involvement, and training.

Trump, C. E., Pennington, R. C., Travers, J. C., Ringdahl, J. E., Whiteside, E. E., & Ayres, K. M. (2018). Applied Behavior Analysis in Special Education: Misconceptions and Guidelines for Use. *Teaching Exceptional Children*, 50(6), 381–393. <https://doi-org.ezproxy.southern.edu/10.1177/0040059918775020>.

- Researchers and practitioners have found many useful ways that ABA benefits educational and behavioral needs of students. For example, positive reinforcement has been widely used to help teach a variety of adaptive as well as academic skills. Researchers have also used positive reinforcement to teach communication skills.
- ABA is often primarily associated with ASD, but there are so many other ways that ABA helps students on and not on the spectrum. Some of these include working with aggression, bullying, off-task behaviors, appropriate communication strategies, social skills, behavior skills, as well as direct instruction.
- There are many misconceptions about ABA and that it is still marred by unsavory practices like restraint and electric shock. This article disproves those misconceptions and points out the benefits of ABA and how this can be a useful tool for any educational endeavor.

Music Therapy

Carpente, J. A. (2018). Goal Attainment Scaling: A Method for Evaluating Progress toward Developmentally Based Music-Centered Treatment Goals for Children with Autism Spectrum Disorder. *Music Therapy Perspectives*, 36(2), 215–223. <https://doi-org.ezproxy.southern.edu/10.1093/mtp/mix021>

- This article breaks down that music therapy is composed of three sections: assessment, treatment, and evaluation. These steps involve understanding the client's relationship to music and engaging with them through music, the clinician formulating specific goals, providing engaging musical interventions in order for the client to reach their set goals, and then evaluating whether the musical interventions were an effective way of treatment.
- Music therapy can be seen throughout history working with individuals with autism. Some of the areas that music therapy targets are communication skills, academic help, motor skills, social skills, emotional regulation, sensory processing, as well as many more.
- In musical therapy, the client's strengths and challenges are seen through their music. A client's musical expressivity can also be seen as their expression of their cognitive, social, an affective relationship to themselves and others. This goes to show that a client's musical response is not only seen by their behavior alone, but by their expression as well.

Yoo, G. E., & Kim, S. J. (2018). Dyadic Drum Playing and Social Skills: Implications for Rhythm-Mediated Intervention for Children with Autism Spectrum Disorder. *Journal of Music Therapy*, 55(3), 340–375. <https://doi-org.ezproxy.southern.edu/10.1093/jmt/thy013>

- This article seeks to discover the relationship between social and motor skills for individuals diagnosed with autism spectrum disorder. This study seeks to understand the potential benefits of rhythmic behaviors to improve social skills in kids with ASD.
- Several music therapy interventions have been found to produce many favorable outcomes with individuals with ASD. Some of these positive outcomes are in social attention, social engagement, initiation of social interaction and communication behaviors, self-control, as well as reciprocating emotions.
- This study concluded that the intervention of a structured rhythm for children with ASD was beneficial. This rhythmic intervention had a positive effect on improving motor skills in children with ASD and can be used with children who show a low level of sensorimotor and/or social skills development.