

ABA Beyond ASD

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Objective:

Applied behavior analysis (ABA) is an evidence-based practice (EBP) used with individuals with a diagnosis of autism spectrum disorder (ASD) and is commonly used to reduce challenging behaviors (e.g., aggression, feeding issues, property destruction, self-injury, etc.). Individuals with other disabilities also exhibit challenging behavior and may also benefit from ABA-based interventions (Matson et al., 2010). Thus, the purpose of this project was to explore if function-based interventions, a key component of ABA, were effective in decreasing challenging behavior for individuals without a diagnosis of ASD. Attention deficit hyperactivity disorder (ADHD) and Down Syndrome (DS) were the foci of this search due to being the most common developmental disorder and most common chromosomal disorder, respectively (Mahone & Denckla, 2017; Mai et al., 2019).

Method:

A literature review was conducted using the databases ERIC, Psycinfo, and Scopus using terms related to function-based interventions, challenging behavior, ADHD, and Down Syndrome. Potential sources were limited to peer-reviewed sources written in English. Results containing a homogenous ASD population or individuals with comorbid ASD and ADHD or DS were excluded.

Initial findings: "adhd" "function-based intervention" OR "challenging behavior"

ERIC: 14

Psycinfo: 23

Scopus: 63

Initial findings: "down syndrome" "function-based intervention" OR "challenging behavior"

ERIC: 4

Psycinfo: 24

Scopus: 65

147 items after removing duplicates

32 items left after applying exclusionary criteria (5 books, 4 book sections, 23 journal articles)

Results:

Initially, 147 sources were identified from the search. After applying the exclusionary criteria, 32 sources (23 articles, five books, and four book sections) utilizing function-based interventions with individuals who had a diagnosis of ADHD or DS who displayed challenging behavior remained. A majority of individuals experienced a reduction in challenging behavior following function-based interventions.

Discussion:

Across the literature, researchers developed interventions with the function of the behavior as the focal point. The diagnosis of the individuals played little, if any, factor in their intervention choices. This may suggest that behaviors, not diagnoses, are the more important factors when considering interventions for reducing challenging behavior. Future directions in research could examine challenging behavior and function-based interventions in a broader range of developmental disabilities (i.e., cerebral palsy, Prader Willi Syndrome, intellectual disability, etc.). Additionally, researchers could examine challenging behavior and function-based interventions in populations without developmental disabilities. Should research display the success of ABA-based interventions for individuals without an ASD diagnosis, current policies that only reimburse ABA therapy for individuals with ASD should be reconsidered. Possible criteria for ABA therapy could include certain academic or behavioral deficits, rather than a specific diagnosis.

References

- Alkahtani, K. D. F. (2013). Using concept mapping to improve parent implementation of positive behavioral interventions for children with challenging behaviors. *International Education Studies*, 6(11), 47–57. Scopus. <https://doi.org/10.5539/ies.v6n11p47>
- Alter, P. J., Wyrick, A., Brown, E. T., & Lingo, A. (2008). Improving Mathematics Problem Solving Skills for Students with Challenging Behavior. *Beyond Behavior*, 17(3), 2–7. eric.
- Cho, S.-J., & Blair, K.-S. C. (2017). Using a multicomponent function-based intervention to support students with attention deficit hyperactivity disorder. *The Journal of Special Education*, 50(4), 227–238. psych.
- Cole, T., Daniels, H., & Visser, J. (2012). *The routledge international companion to emotional and behavioural difficulties* (p. 364). Scopus. <https://doi.org/10.4324/9780203117378>
- Farmer, C. A., & Aman, M. G. (2013). *Pharmacological Intervention for Disruptive Behaviors in Intellectual and Developmental Disabilities: The Glass is Half Full* (Vol. 44, p. 325). Scopus. <https://doi.org/10.1016/B978-0-12-401662-0.00009-9>
- Feeley, K., & Jones, E. (2008). Strategies to address challenging behaviour in young children with Down syndrome. *Down's Syndrome, Research and Practice : The Journal of the Sarah Duffen Centre / University of Portsmouth*, 12(2), 153–163. Scopus. <https://doi.org/10.3104/case-studies.2008>
- Feeley, K. M., & Jones, E. A. (2006). Addressing challenging behaviour in children with Down syndrome: The use of applied behaviour analysis for assessment and intervention. *Down Syndrome: Research & Practice*, 11(2), 64–77. psych. <https://doi.org/10.3104/perspectives.316>
- Fox, R. A. (2003). Treatment or Accommodation for Adults With Challenging Behaviors. *Mental Retardation*, 41(3), 205–206. Scopus. [https://doi.org/10.1352/0047-6765\(2003\)41<205:TOAFAW>2.0.CO;2](https://doi.org/10.1352/0047-6765(2003)41<205:TOAFAW>2.0.CO;2)

- Germer, K. A., Kaplan, L. M., Giroux, L. N., Markham, E. H., Ferris, G. J., Oakes, W. P., & Lane, K. L. (2011). A Function-Based Intervention to Increase a Second-Grade Student's On-Task Behavior in a General Education Classroom. *Beyond Behavior*, 20(3), 19–30. eric.
- Jones, E. A., Neil, N., & Feeley, K. M. (2013). Enhancing learning for children with down syndrome. In *Educating Learners with Down Syndrome: Research, theory, and practice with children and adolescents* (pp. 83–115). Scopus. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84928495104&partnerID=40&md5=c9ae3df133af622f7407315790ae41ba>
- Jones, E., & Leitch, S. (2021). Using positive behaviour support and active support to achieve a good quality of life for people with Down syndrome. In *Excelling in Life with Down Syndrome* (pp. 131–164). Scopus. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85109056329&partnerID=40&md5=b37ea48bffb289ca455be48fd507e6c>
- Lauth-Lebens, M., & Lauth, G. (2019). Erfassung von symptomkritischen und belastenden Schulsituationen bei Kindern mit Aufmerksamkeitsdefizit-/Hyperaktivitätsstörung: Schülerauffälligkeiten und Lehrbelastungen = Identifying symptom critical and stressful school situations of children with attention deficit hyperactivity disorder: Challenging classroom behavior and teacher strain. *Verhaltenstherapie*, 29(4), 234–243. psych. <https://doi.org/10.1159/000498974>
- Mahone, E. M., & Denckla, M. B. (2017). Attention-Deficit/Hyperactivity Disorder: A Historical Neuropsychological Perspective. *Journal of the International Neuropsychological Society*, 23(9–10), 916–929. <https://doi.org/10.1017/S1355617717000807>
- Mai, C. T., Isenburg, J. L., Canfield, M. A., Meyer, R. E., Correa, A., Alverson, C. J., Lupo, P. J., Riehle-Colarusso, T., Cho, S. J., Aggarwal, D., Kirby, R. S., & Network, N. B. D. P. (2019). National population-based estimates for major birth defects, 2010–2014. *Birth Defects Research*, 111(18), 1420–1435. <https://doi.org/10.1002/bdr2.1589>
- Mandal-Blasio, R., Sheridan, K., Schreiner, G., & Ladner, T. (2009). Challenging behaviors. In *Social Behavior and Skills in Children* (pp. 97–116). Scopus. https://doi.org/10.1007/978-1-4419-0234-4_6
- Matson, J. L. (2009). *Social behavior and skills in children* (p. 333). Scopus. <https://doi.org/10.1007/978-1-4419-0234-4>
- Matson, J. L., Mahan, S., Sipes, M., & Kozlowski, A. M. (2010). Effects of symptoms of comorbid psychopathology on challenging behaviors among atypically developing infants and toddlers as assessed With the baby and infant screen for children with autism Traits (BISCUIT). *Journal of Mental Health Research in Intellectual Disabilities*, 3(3), 164–176. Scopus. <https://doi.org/10.1080/19315864.2010.495920>
- Matson, J. L., & Williams, L. W. (2013). Differential diagnosis and comorbidity: Distinguishing autism from other mental health issues. *Neuropsychiatry*, 3(2), 233–243. Scopus. <https://doi.org/10.2217/npv.13.1>

- Miller, F. G., & Lee, D. L. (2013). Do Functional Behavioral Assessments Improve Intervention Effectiveness for Students Diagnosed with ADHD? A Single-Subject Meta-Analysis. *Journal of Behavioral Education, 22*(3), 253–282. <https://doi.org/10.1007/s10864-013-9174-4>
- Moss, J., Richards, C., Nelson, L., & Oliver, C. (2013). Prevalence of autism spectrum disorder symptomatology and related behavioural characteristics in individuals with Down syndrome. *Autism, 17*(4), 390–404. psych. <https://doi.org/10.1177/1362361312442790>
- Myrbakk, E., & Von Tetzchner, S. (2008). The prevalence of behavior problems among people with intellectual disability living in community settings. *Journal of Mental Health Research in Intellectual Disabilities, 1*(3), 205–222. psych. <https://doi.org/10.1080/19315860802115607>
- Neil, N., Amicarelli, A., Anderson, B. M., & Liesemer, K. (2021). A Meta-Analysis of Single-Case Research on Applied Behavior Analytic Interventions for People With Down Syndrome. *American Journal on Intellectual and Developmental Disabilities, 126*(2), 114–141. <https://doi.org/10.1352/1944-7558-126.2.114>
- Nolan, J. D., & Filter, K. J. (2012). A function-based classroom behavior intervention using non-contingent reinforcement plus response cost. *Education & Treatment of Children, 35*(3), 419–430. psych. <https://doi.org/10.1353/etc.2012.0017>
- O' Regan, F. (2014). *Successfully managing ADHD: A handbook for SENCOs and teachers* (p. 90). Scopus. <https://doi.org/10.4324/9781315813929>
- Page, E. J., Massey, A. S., & Rzeszutek, M. J. (2021). Systematic review and meta-analysis of between-group and single-case physical activity interventions for people with intellectual disabilities. *Behavior Analysis: Research and Practice, 21*(3), 248–272. psych. <https://doi.org/10.1037/bar0000216>
- Romano, L. M., St. Peter, C. C., Milyko, K. L., Mesches, G. A., & Foreman, A. P. (2021). Incorporating curricular revision to treat escape-maintained behavior for children with ADHD. *Education & Treatment of Children, 44*(2), 55–69. psych.
- Shawler, L. A., Clayborne, J. C., Nasca, B., & O'Connor, J. T. (2021). An intensive telehealth assessment and treatment model for an adult with developmental disabilities. *Research in Developmental Disabilities, 111*. Scopus. <https://doi.org/10.1016/j.ridd.2021.103876>
- Simonoff, E. (2015). Intellectual disability. In *Rutter's Child and Adolescent Psychiatry: Sixth Edition* (pp. 719–737). Scopus. <https://doi.org/10.1002/9781118381953.ch54>
- Skinner, J. N., Veerkamp, M. B., Kamps, D. M., & Andra, P. R. (2009). Teacher and peer participation in functional analysis and intervention for a first grade student with attention deficit hyperactivity disorder. *Education & Treatment of Children, 32*(2), 243–266. psych. <https://doi.org/10.1353/etc.0.0059>
- Stahr, B., Cushing, D., Lane, K., & Fox, J. (2006). Efficacy of a Function-Based Intervention in Decreasing Off-Task Behavior Exhibited by a Student with ADHD. *Journal of Positive Behavior Interventions, 8*(4), 201–211. psych. <https://doi.org/10.1177/10983007060080040301>

- Walker, V. L., Chung, Y.-C., & Bonnet, L. K. (2018). Function-Based Intervention in Inclusive School Settings: A Meta-Analysis. *Journal of Positive Behavior Interventions*, 20(4), 203–216.
<https://doi.org/10.1177/1098300717718350>
- Waller, R. J., Albertini, C. L., & Waller, K. S. (2011). Self-monitoring of performance to promote accurate work completion: A functional based intervention for a 4th grade student presenting challenging behavior. *Advances in School Mental Health Promotion*, 4(1), 52–60. psych.
<https://doi.org/10.1080/1754730X.2011.9715623>
- Whitford, D. K., Liaupsin, C. J., Umbreit, J., & Ferro, J. B. (2013). Implementation of a Single Comprehensive Function-Based Intervention Across Multiple Classrooms for a High School Student. *Education and Treatment of Children*, 36(4), 147–167.
<https://doi.org/10.1353/etc.2013.0036>
- Will, E., & Hepburn, S. (2015). *Applied Behavior Analysis for Children with Neurogenetic Disorders* (Vol. 49, p. 259). Scopus. <https://doi.org/10.1016/bs.irrdd.2015.06.004>