

A systematic review of cultural differences in the implementation of manualized evidence based applied behavior analysis (ABA) interventions for autism spectrum disorder (ASD) regarding social-emotional development

Benjamin Smith, School Psychology; Zuleyka Rodríguez, Counseling Psychology; Iris Rivera, MSW, Clinical Psychology Intern

Research Mentor and other collaborators:

Matthew O'Brien, PhD, BCBA-D & Yaniz Padilla Dalmau, PhD, BCBA-D

Objective:

In this study, we intend to gather and synthesize information on cultural adaptation in ABA interventions to fill the gap regarding social-emotional development for the benefit of future research.

Introduction:

Applied Behavioral Analysis (ABA) based interventions for people with Autism Syndrome Disorder (ASD) are expanding globally across different cultures. New data stated that the prevalence of ASD among Black and Hispanic populations has been catching up to the White population, mainly because improved screening, awareness, and access to services stating the importance of cultural competence (CDC, 2023). Some research has been done on how to tailor these interventions to different cultures, but the information remains highly diffuse.

ASD is defined by social and communication difficulties and repetitive and restrictive behaviors. Many neurodivergent children have difficulties with social, emotional, and behavioral skills which may impact their learning achievement and relationships both in early childhood education and at school. Given the dynamic relationship between culture and social behavior, the effectiveness of social skills interventions may be particularly influenced by the degree to which they are culturally appropriate (Davenport et al, 2018). Implementation of ABA requires individualization considering cultural competency (Dalphonse, nd.) This research project aims to gather and synthesize information on cultural adaptation in ABA interventions to fill the gap regarding social-emotional development for the benefit of future research and interventions that promote positive social emotional development across diverse cultural contexts. By examining how ABA interventions can be culturally adapted, this research seeks to identify the strengths and limitations of existing interventions in different cultural settings.

Method:

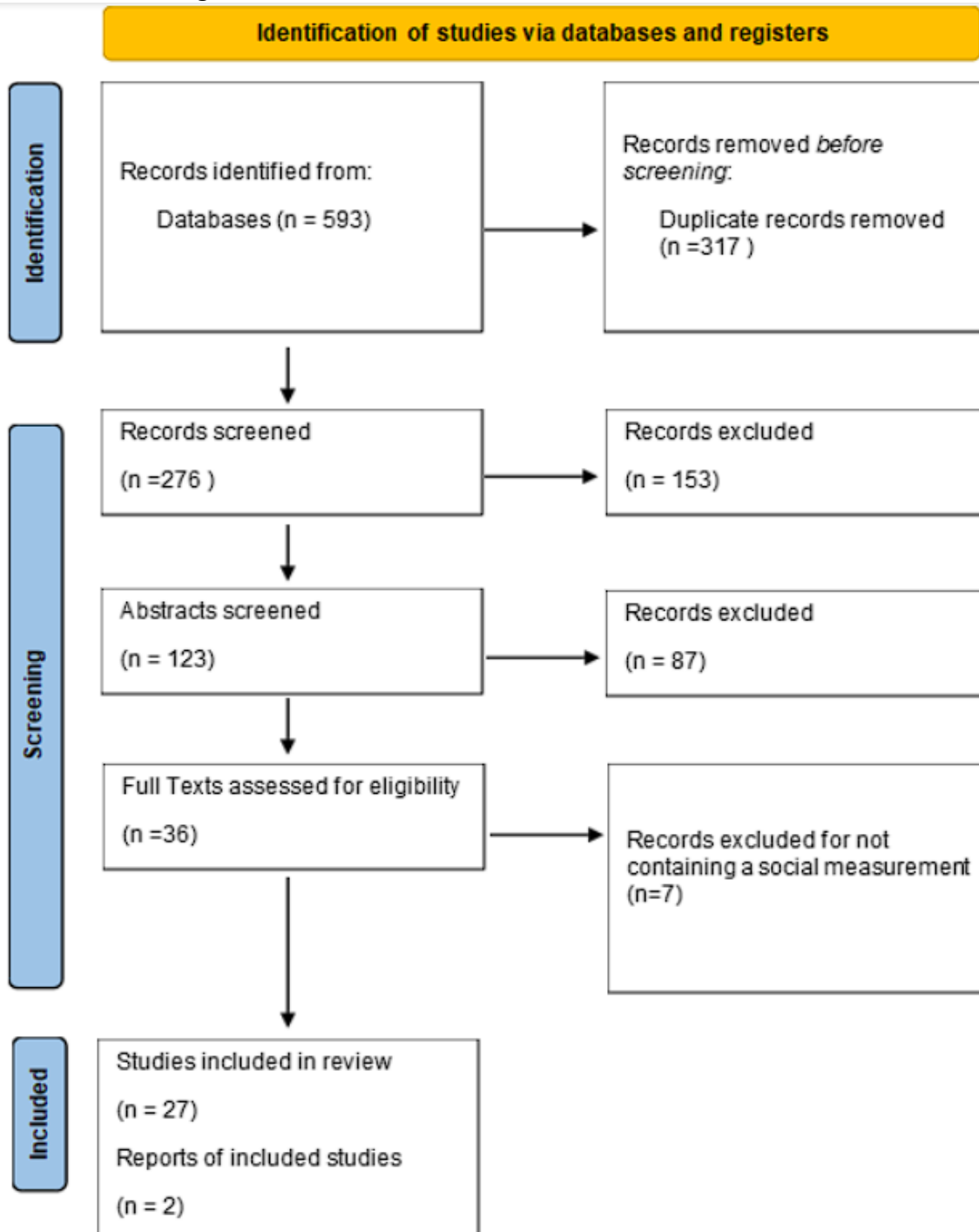
This systematic review was completed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, 2009). Comprehensive searches using PsycInfo, PsycArticles, Excerpta Medical Database (Embase), Educational Resource Information Center (ERIC) and Cumulative Index to Nursing and Allied Health Literature (CINAHL) were conducted in February of 2024 using combinations of three groupings of keywords. These groupings included an "autism" grouping (Autis* OR Asperger OR "pervasive developmental disorder" OR ASD OR ASC OR PDD OR PDD-NOS), an "intervention" grouping (PECS, "picture exchange communication system," PRT, "Pivotal Response Training,"

Milieu teaching, JASPER, “Joint Attention Symbolic Play Engagement and Regulation,” “Project ImPACT,” “Improving Parents As Communication Teachers,” Stepping Stone Triple P, SSTP, RUBI, “Research Units in Behavioral Intervention,” STARS, “Supporting Teachers and Children in Schools”) and a “social” grouping (social* OR friend* OR shar* OR play* OR communic*)

Inclusionary criteria were determined at the outset of the project. Studies were only included if they were published between the years of 2009 and 2024 in a peer reviewed journal and were available in English or Spanish. Studies were included if they (1) were conducted on human subjects who were no more than 20 years of age, (2) contained at least one group who were made up of individuals who had a diagnosis or diagnoses of some combination of ASD, PDD, or aspergers, (3) contained an outcome measure relating to social skills or social development, (4) studied one of the following manualized evidence based ABA-based interventions utilizing an intervention directly based off of: PECS, Pivotal Response Training, Milieu teaching, JASPER, Project ImPACT, Stepping Stone Triple P, RUBI, STARS.

All studies which were included were of single case or group design. Articles which solely contained observational studies, descriptive studies, predictive studies, literature reviews, and meta-analyses were excluded from the search. The PRISMA flow diagram is depicted in Figure 1.

Figure 1: PRISMA Diagram



Results/Conclusion:

29 Studies were included for final synthesis. While data extraction remains ongoing, preliminary results suggest most studies covered either the picture exchange communication system (PECS) or pivotal response therapy (PRT). Initial extraction further reveals that very few of the included studies implemented any kind of cultural or ethnic adaptations to their treatment. However, more analysis of the data must be conducted to confirm this.

The initial data trends paint a troubling picture for current manualized ABA evidence-based practices. Specifically, there seems to be very little published research on how to adapt some of the most widely used interventions in ABA. That is not to say there has not been any research on cultural adaptations to ABA interventions, but rather that those interventions that have been studied/designed in this way have not been rigorously studied through clinical randomized trials; thus, lacking the ability to truly be called evidence-based practices.

This suggests two directions for future research. The first is to study how current manualized practices could be effectively adapted to other cultures. For instance, one could compare the effectiveness of using highly culturally specific versus culturally neutral pictures in a PECS study. The second direction is to verify the effectiveness of ABA interventions that have previously been implemented with cultural adaptations. This could be done by conducting clinical randomized trials on large populations, and by conducting meta-analyses comparing the outcomes of culturally specific to culturally neutral ABA interventions.

References:

Centers for Disease Control and Prevention- CDC (2023). Spotlight On A New Pattern in Racial and Ethnic Differences Emerges in Autism Spectrum Disorder (ASD) Identification among 8-year-old Children. www.cdc.gov.

Dalphonse, A. (2023, September 28). Cultural Competency training for ABA Practitioners: Best practices and benefits. Master ABA. <https://masteraba.com/cultural-competency-training-for-aba-practitioners-best-practices-and-benefits/>.

Davenport, M., Mazurek, M., Brown, A. , McCollom, E. (2018). A systematic review of cultural considerations and adaptation of social skills interventions for individuals with autism spectrum disorder. *Research in Autism Spectrum Disorders*. Volume 52. Pages 23-33. ISSN 1750-9467. <https://doi.org/10.1016/j.rasd.2018.05.003>.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>