

2020 has not been a good year for ABA: A research review

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This paper looks at recent research reviews of ABA, outlining 4 themes.

1. Research and retrospective reviews of ABA research show no evidence of benefit for ABA.
2. Conflicts of interest are pervasive in ABA research, with more than 70% of research being done by persons with a financial stake in positive outcomes.
3. ABA research design is flawed, with small sample sizes, absence of RCTs, detection bias and typically no assessment of risks or adverse events.
4. There are many negative impacts to ABA, which are only recently being researched.

Intro: What is ABA and why is it controversial?

Applied Behaviour Analysis (ABA) is an offshoot of radical behaviourism, the theory that human and animal behavior can or should be explained in terms of conditioning, without appeal to thoughts or feelings. ABA imposes “operant conditioning” (compliance training) on autistic children and adults through intensive repetitions, rewards and punishments.

ABA was founded by O. Ivor Lovaas, a behaviourist who also co-founded a form of gay conversion therapy. Much like gay conversion therapy, ABA is based on a reward/punishment system to “train” children to act in compliance with ABA providers (known as BCBAs). Rewards may range from a piece of candy to access to a beloved special object. Punishments may range from denying play time to [electroshocks](#). In IBI, the most intensive form of ABA, toddlers and preschoolers are segregated full time in an institutional setting (IBI centre), where they undergo “discrete trials” all day long in place of spending time with their peers. A year of IBI can cost upwards of \$30,000-\$90,000 per child.

ABA is used mostly in the United States and Canada, where it has strong lobbies. Although there is a movement to promote ABA in the United Kingdom (where ABA is not generally used nor publicly funded), ABA has not gained traction there because the Health Service doesn’t support services that are not evidence-based. Some ABA marketers have also sought to bring ABA to new markets in Africa, Latin America and Indigenous North American communities. These efforts have not had much success due to their racist/colonialist overtones.

When surveyed, autistic people consistently oppose ABA. In a recent [survey](#) of 3,431 autistics, just 5.19% supported ABA. ABA is also rejected by many parents—and, of course, entire disciplines like psychotherapy. While this dissent should be persuasive enough to pivot policy

away from funding ABA, policymakers are slow to act for a number of reasons. Meanwhile, ABA research is increasingly being examined as an unsustainable practice, especially as newer approaches begin to dominate the research world.

This paper primarily examines research on ABA/early childhood autism interventions from the year 2020 (with two papers from 2019). For more information about why most autistic people oppose ABA, please see our [report](#) on the ethical issues with ABA.

Key research on ABA, 2020

Lack of evidence

US Government (DOD): TRICARE [Comprehensive Autism Care Demonstration report](#)

The US Department of Defense, as an insurer of more than 1.4 million Americans, reported to Congress that *after 1 year of ABA treatment, 76 per cent of autistic patients had no change in symptoms and 9 per cent WORSENERD by more than 1 standard deviation*. The report, based on 16,111 beneficiaries, reaffirms statements from previous years that the effectiveness of ABA on autistic children is “unproven”.

[Cochrane Review](#), Reichow B, et al: **Early intensive behavioral intervention (EIBI) for increasing functional behaviors and skills in young children with autism spectrum disorders**

This meta-analysis from Cochrane Review looks at five EIBI studies (one RCT and four CCTs) with a total of 219 children, concluding: “There is weak evidence that EIBI may be an effective behavioral treatment for some children with ASD; the strength of the evidence is limited because it mostly comes from small studies that are not of the optimum design. Due to the inclusion of non-randomized studies, there is a high risk of bias and *we rated the overall quality of evidence as 'low' or 'very low'.*” (This paper is from 2018).

BMC Psychiatry, Strydom, et al: [Clinical and cost effectiveness of staff training in the delivery of Positive Behaviour Support \(PBS\) for adults with intellectual disabilities, autism spectrum disorder and challenging behaviour - randomised trial](#)

In a multicentre, cluster randomised trial conducted in 23 community psychological/psychiatric services in England, participants were randomly allocated to either the delivery of PBS or to treatment as usual (control group, 113 participants). Researchers found “neither primary nor secondary outcomes were significant between autistic participants and the control group...Results suggest lack of clinical effectiveness for PBS.”

Conflicts of interest in ABA research

Journal of Child Psychology and Psychiatry, Bottema-Beutel, et al: Research Review: [Conflicts of Interest \(COIs\) in autism early intervention research – a meta-analysis of COI influences on intervention effects](#)

Researchers sought to assess evidence for psychoeducational interventions for autistic children,

but were unable to, due to the overall weak evidentiary basis of ABA and other early intervention research. “Across intervention types, there were [too few high-quality studies](#) for us to compute reliable statistics.”

In this secondary analysis of a comprehensive meta-analysis of all group-design, nonpharmacological early intervention autism research conducted between 1970 and 2018, comprising 150 studies, the team found that **a full 70% of the studies had conflicts of interest and less than 6 per cent of them declared the conflicts**. Bottena-Beuten et al. concluded that “Conflicts of interest are prevalent but under-reported in autism early intervention research. Improved reporting practices are necessary for researcher transparency and would enable more robust examination of the effects of COIs on research outcomes.”

Failure to report adverse events in ABA studies

Journal of Child Psychology and Psychiatry, Bottena-Beuten et al: [Adverse event reporting in intervention research for young autistic children](#).

Bottena-Beuten et al. also looked at “how often studies reported on whether adverse events (physical or psychological distress to the participants) or adverse effects (adverse events that are thought to be caused by the intervention) had occurred”. Of the 150 reports they reviewed, only 11 mentioned adverse events. However, 54 studies described reasons for withdrawal and 18 of those had reasons that could be categorized as an adverse events or adverse effect “and an additional 12 studies had reasons that were too vaguely described to determine whether they were adverse events or not.”

“We recommend that autism intervention researchers develop more systematic methods of looking for and reporting adverse events and effects, so that professionals and families can be better informed when choosing to enroll their autistic children in interventions.”

Detection Bias in ABA research

Journal of American Medical Association-Pediatrics, Sandbank, et al: [IBI Intervention Recommendations for Children With Autism in Light of a Changing Evidence Base](#)

Sandbank and his team completed a systematic review and meta-analysis of quasi-experimental and randomized studies evaluating results from early intervention autism research (150 reports representing 6,240 participants.) They noted “detection bias” rated as high as 77.05 percent of outcomes in behavioral studies. (Detection bias refers to the risk of bias that arises when assessors are aware of the group assignment of individual participants.) Caregiver/teacher reports were common, posing the greatest risk of bias, though researchers also noted that professional assessors with detection bias is also problematic.

“It is common for researchers to rely on parents or teachers to assess outcomes via standardized interviews and/or report forms... [They are] likely to be personally invested in the outcome of intervention. This combination ...can yield a ‘placebo by proxy’ effect, which can

positively bias results...” Researchers noted the need for independent evaluations to replace this. “Outcomes from caregiver report are highly subject to systematic measurement error and may positively bias summary estimates of intervention effects.”

Absence of Random Control Trials in early intervention/ABA research

In the [same study](#), Sandbank et al. noted that assessing the evidence of behaviorist early autism interventions was stymied by a lack of random control trials (where ABA participants’ outcomes are compared with non-ABA participants). They noted “not enough RCTs of behavioral interventions to permit summary effect estimation for any outcome type.”

“Much research on ABA was established using single-case experimental designs whereby a treatment is administered by the investigator in different phases to the same subject, who acts as their own control; measured outcomes are then related to treatment phases to draw inferences on their causal relationship,” they wrote. “Although these n-of-1 studies generated useful findings, group comparison of treatment effects following randomisation remains the standard to evaluate treatment efficacy.”

Bioethical concerns in the use of ABA

Kennedy Institute of Ethics Journal, Wilkenfeld, et al: [Ethical Concerns with Applied Behavior Analysis for Autism Spectrum Disorder](#)

Wilkenfeld et al. argue that from a bioethical perspective, critics of ABA “are fully justified in their concerns—the rights of autistic children and their parents are being regularly infringed upon. ... Employing ABA violates the principles of justice and nonmaleficence and, most critically, infringes on the autonomy of children and (when pushed aggressively) of parents as well.”

In their analysis, they identify a key ethical weakness in ABA, built around its core views about people and how their behaviour can be (or should be) manipulated. “The radical behaviorist worldview has no room for the principle of respect for autonomy. Thus radical behaviorism is a worldview that deeply conflicts with contemporary bioethics, and specifically with the recognition of respect for autonomy.”

Adverse effects of ABA

Advances in Autism, McGill & Robinson: [“Recalling hidden harms”: autistic experiences of childhood applied behavioural analysis \(ABA\)](#)

McGill and Robinson interviewed 10 autistic adults who had been through ABA as children, the majority of whom spoke of being harmed by ABA’s methods, noting: “Participants indicated a sense of ‘training’ or negativity from the repetitive nature of the therapy.” Four participants reported that the experience gave them PTSD, with another participant relating ABA to their

depression and another relating it to an anxiety disorder. “The majority of participants’ reflections (n=7) referred to being left with feelings of self-rejection and a sense of self-loathing as a consequence of their experience of ABA.”

In this small study, the majority of participants viewed their ABA experience as creating an undue dependency on authority figures, based upon accompanying fear of punishment. One participant illustrated this by stating: “The focus on compliance made it harder for me to say no to people who hurt me later.” The study confirms a view held by many who experienced ABA, that it left them more vulnerable to abuse because of the ways that ABA’s compliance training had conditioned them to relate to people in authority positions.

Cogent Psychology, Herlinda Sandoval-Norton: [How much compliance is too much compliance: Is long-term ABA therapy abuse?](#)

This paper (published in 2019) reviewed research literature to identify “unintended but damaging consequences [of ABA], such as prompt dependency, psychological abuse and compliance that tend to pose high costs on former ABA students as they move into adulthood.” It identifies the adverse effects of “intensive and chronic conditioning” as leading to problematic levels of compliance, low intrinsic motivation, and lack of independent functioning.

“It is heartbreaking but not surprising to learn that the odds of being a victim of a violent crime is doubled among individuals with disabilities, and individuals with cognitive disabilities have the highest risk of violent victimization (Harrell & Rand, [2010](#)). Additionally, individuals with disabilities are sexually assaulted at nearly three times the rate of those without disabilities (Disabled World, [2012](#)). So how much compliance is too much compliance?”

The paper identifies that many professionals, such as physicians, educators/consultants, counselors and policymakers often recommend or support ABA while knowing little to nothing about its methods and effects, imploring professionals “to ask themselves whether or not this archaic approach to treating ASD is in line with their oath to do no harm.”

Cogent Psychology, Shkedy, et al: [Treating self-injurious behaviors in autism spectrum disorder](#)

Shkedy et al. discuss the preventing and treatment of self-injurious behaviour (SIB), questioning the use of ABA, which they identify as an “unscientific approach” to the problem. They critique a common practice in ABA and some educational settings of creating “functional behavioral assessments (or FBAs), that identifies a specific behaviour, track it and target it for behaviouristic intervention. They note that this unscientific approach is also being used by persons who have no training in the management of SIBs and often can create trauma and worsen conditions. “ABA therapists and other paraprofessionals with evidently no training in human psychology or child development are engaging the kind of maltreatment [which] is incompatible with any formal education or knowledge regarding current research and appropriate ways to address SIB. A therapist is duty bound to Do No Harm, and yet by these very actions we are causing more harm.”

They note that behaviourist responses to SIBs are typically punishment-based, citing the example of misting the child in the face with water or taking away desired objects. “Other responses include withholding attention from the child, ignoring the child, or removing the child from the situation (Carr, [1977](#); Minshawi et al., [2014](#); Weiss, [2003](#)).”

They observe: “It is unclear why one would think these responses are appropriate for someone who is engaging in SIB since these responses do not follow any evidenced-based treatment or theoretical orientation. A psychologist or therapist would not respond to any client this way after discovering their client has been or is engaging in SIB.”

National Education Policy Centre, Alfie Kohn. [Autism and Behaviorism: New Research Adds to an Already Compelling Case Against ABA](#)

“When a common practice isn’t necessary or useful even under presumably optimal conditions, it’s time to question whether that practice makes sense at all.” Kohn is talking, of course, about ABA. Kohn, an expert whose research and writing on motivation has appeared in the Harvard Business Review, Education Week, The Chronicle of Higher Education, The New York Times and countless other publications, argues that ABA “isn’t just problematic theoretically (reflecting a truncated understanding of human psychology) and ethically; it also fails from a practical perspective, as has been demonstrated repeatedly.”

Kohn identifies fatal flaws with the ABA approach for autistic children: “it is dehumanizing and infantilizing; it ignores internal realities; it creates dependence; it communicates conditional acceptance; it undermines intrinsic motivation; and it’s all about compliance”. Kohn counters ABA’s behaviourist position by affirming that an autistic person “is not a passive object to be manipulated but a subject, a center of experience, a person with agency, with needs and rights. We have an obligation to look beneath the behavior...attempting to understand the whys rather than just tabulating the frequency of the whats.”

Kohn notes that the autistic community’s opposition to ABA must be considered by schools, policymakers and other decision-makers when choosing whether to support it. “It is nothing short of stunning to learn just how widely and intensely ABA is loathed by autistic adults who are able to describe their experience with it. Frankly, I’m embarrassed that, until about a year ago, I was completely unaware of all the [websites](#), [articles](#), [scholarly essays](#), [blog posts](#), [Facebook pages](#), and [Twitter groups](#) featuring the voices of autistic men and women, all overwhelmingly critical of ABA and eloquent in describing the trauma that is its primary legacy. How is it possible that their voices have not transformed the entire discussion? ...And yet the consistent, emphatic objections of autistic people don’t seem to trouble ABA practitioners at all.”

The future of ABA

With endemic conflicts of interest, an absence of random-controlled trials in addition to other problematic methodologies, the ABA industry’s claim to be “evidence-based” is not credible. The ABA approach is also not commensurate with the values of a democratic society that values autonomy and human rights--because at its core, ABA values compliance over quality of life.

(Indeed, this is one reason ABA is also used in prisons as a means of total control). So while some ABA may meet the goal of temporary compliance (at all costs) from autistic children, it does not improve their quality of life and there is no compelling evidence to continue funding it in any context.

As Kohn observes, there is a broad-based movement by autistic people and the neurodiversity movement to de-fund ABA. Policymakers and educators now need to ask themselves: when the people being targeted by a therapy organize against it in such numbers and with such passion, is that therapy truly sustainable? The answer is no. This, combined with parent demand for alternatives, new research and the high cost of ABA compared to other services, has weakened its support among policymakers.

Each year, fewer developmental pediatricians are recommending ABA and more are recommending better approaches. Governments are less willing to fund ABA as autism therapy for ethical and fiscal reasons. Families/consumers of autism services are demanding better approaches. What this means is that ABA is gradually being de-funded, with public funding for autism-related ABA in Canada likely to be obsolete by 2030.

There are better ways than ABA. Aside from psychotherapeutic approaches, there are many evidence-based, practical Speech Language Pathology services, Occupational Therapies and Communication platforms (AAC, for non-speaking or partially-speaking autistics). Access to AAC is a human right and should be centred in autism policy. Policymakers should also be researching and funding programs that work around concepts of inclusion, communication and sensory needs, like Foundations for Divergent Minds and the SCERTS program, which offer inclusion and accessibility training to schools and families. It is crucial that our governments fully fund these types of services, which have immediate and long-term impact on autistic people's quality of life.

As this and other research shows, it is time for policymakers to rethink their assumptions about ABA, to consult with autistic-led organizations, as well as families and non-ABA providers and develop a robust funding approach that truly meets the needs of autistic children and adults.

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