

Applied Behaviour Analysis for adults with ASD

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The Research Team are unable to ensure that the information listed below provides an accurate & up-to-date snapshot of these matters

Research question: Is there any research evidence that ABA therapy is effective in the treatment of ASD in adults?

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2. Summary

There is evidence that interventions based on Applied Behaviour Analysis (ABA) can be effective in improving skills and outcomes and reducing concerning behaviour for older adolescents and young adults with autism. However, the evidence base is small and the literature mostly reports on single subject case studies or otherwise small sample studies.

There is a lack of consensus about effective and ethical intensity of behavioural interventions. ABA is a discipline which incorporates many different techniques and treatment protocols. It is possible that different ABA interventions would require different frequency and duration of supports. No studies were found that focussed on intensive ABA for older teenagers or adults.

The focus of this paper is on recent published research which summarises and reviews existing research. Considering the timeframe of this paper and the breadth of literature, it should be noted that there may be further relevant research we have not examined.

3. Evidence for ABA in adults

Research on interventions for older adolescents and young adults with autism is scarce. Most of the research on ABA focusses on younger children. Results of research on younger children may not generalise for adults (Shattuck et al, 2020; Howlin, 2021; Lord et al, 2022; Rodriguez et al, 2022). Straiton et al (2021) conducted a survey study including 97 ABA providers that related to parent training as a component of ABA practice for people with autism under 21. They note that very few ABA providers were aware of evidence-based strategies for incorporating parent training in their program. Lord et al (2022) summarise the evidence:

Behavioural programmes for adults with autism have been described for many years, although few are randomised controlled trials and many involve individuals with more severe intellectual disabilities. The use of behavioural approaches is also controversial among some neurodiversity advocates (Lord et al, 2022, p.290).

Much of the research on autism in adulthood focusses on life-stage outcomes rather than specific interventions (Mason et al, 2021; Howlin, 2021). Much of the research on use of behavioural interventions in adults with autism focusses on ethical issues and describes the controversy around long term use of ABA (Sandoval-Norton et al, 2019; Gorycki et al, 2020; Shkedy et al 2021).

Evidence-based behavioural interventions identified by Steinbrenner et al (2020) for 15-22 year olds include antecedent-based interventions, behavioural momentum intervention, differential reinforcement, discrete trial training, extinction, functional behavioural assessment, modelling, prompting, reinforcement, response interruption/reintegration, self-management, task analysis, video modelling, and visual supports. These interventions may make up an ABA program. It is worth noting that, for Steinbrenner et al, an intervention counts as evidence-based if it has support from either:

- two high quality group design studies conducted by at least two different researchers or research groups
- five high quality single case design studies conducted by three different investigators or research groups and having a total of at least 20 participants across studies
- one high quality group design study and at least three high quality single case design studies conducted by at least two different investigators or research groups.

This approach to evidence-based practice is challenged in the literature (Donovan et al, 2020; Lord et al, 2022). For instance, the Steinbrenner et al approach means that some practices may count as evidence-based even if they have only a small number of uncontrolled studies supporting them and even if very few subjects were involved in the intervention.

In their narrative review, Rodriguez et al (2022) provide more detail about some behavioural interventions they consider efficacious for adults. These include self-management, prompting, video modelling, visual supports, task analysis, behavioural skills training, and functional communication training. The authors note that for all these interventions there is minimal adult focussed research. Where evidence for efficacy in adult populations exists, it is usually based on single subject case studies or other small sample study designs. One recent systematic review found moderate to strong evidence that functional communication training can reduce challenging behaviours in adults with autism (Gregori et al, 2020). However, this was based on only 8 participants across 8 single case studies. Another recent study found behavioural skills training improved social and conversation skills for 6 adults with autism when delivered in a group setting (Ryan et al, 2019).

Theoretically, many of the principles of ABA should work for all age groups. For example, reinforcement may encourage target behaviour regardless of age group. However, effect size may be different and different skill areas may be targeted (e.g. community independence, vocational training) for older adults, young adults and adolescents. Also, there may be some issues of implementation. For example, Rodriguez et al (2020) note that removing reinforcement of undesirable behaviours can result in increases in aggression for up to 50% of subjects. For adults with aggressive behaviours this can pose a significant safety risk (Manente et al, 2010).

4. Duration and intensity of behavioural intervention

There is a lack of consensus on the appropriate intensity and duration of behavioural interventions. Gerhardt et al (2022) suggest it is a myth that adolescents and young adults would no longer benefit from intensive ABA. However, while the authors cite evidence showing ABA may be effective for adolescents and young adults, they do not provide evidence for a high intensity of support. With respect to early intensive behavioural intervention, Leaf et al (2022) state that intervention is usually concluded prior to school age, though if a child still requires support then intervention should continue into school age:

Although the average may be 3 years, research has shown that a successful duration can be anywhere between 6 and 36 months. Like the intensity of intervention, the duration of intervention must be individualized to meet the needs of the individual learner (Leaf et al, 2022, p.254).

In contrast, the recent *Lancet Commission on the future of care and clinical research in autism* report states that the intensive ABA approach:

as originally implemented, has little support from well-designed randomised controlled trials. However, it has been modified over the past few decades to be more naturalistic and developmentally appropriate, often with lower-intensity delivery and greater emphasis on the child as an active partner in communication. In addition, other studies have focused on teaching parents to support the child in the development of early communication and social interaction (Lord et al, 2022, pp.278-279).

Shkedy et al (2021) argue there is no research showing the effectiveness of ABA for people who have received treatment over 5, 10 or 15 years (also, Donovan et al, 2020). While the appropriate intensity and duration of support is in dispute, Lord et al maintain there is evidence that behavioural intervention can improve cognitive and emotional self-regulation and reduction in social difficulties for older children and young adults. They continue:

As for other chronic and enduring health conditions, one-off, time-limited interventions will not be sufficient to enable long-term change for most people with autism. Instead, a developmentally sequenced series of staged and personalised interventions will be required for each individual, according to their developmental stage, profile of strengths and needs, and co-occurring conditions (Lord et al, 2022, pp.279-280).

The recommendation for a 'staged' service implies that the least intensive service is trialled to determine what the participant's needs are.

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