

Applied behaviour analysis and positive behaviour support

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Please note:

The research and literature reviews collated by our TAB Research Team are not to be shared external to the Branch. These are for internal TAB use only and are intended to assist our advisors with their reasonable and necessary decision-making.

Delegates have access to a wide variety of comprehensive guidance material. If

Delegates require further information on access or planning matters, they are to call the TAPS line for advice.

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

Research question: What is the difference between Applied Behaviour Analysis and positive behaviour support? Is intensive ABA effective for managing behaviours of concern? What qualifications and legislative requirements are required for a practitioner to develop or implement a positive behaviour support programme?

Date: 21/07/2022

Requestor: Kim [redacted]

Endorsed by (EL1 or above): Naomi [redacted]

Researcher: Aaron [redacted]

Cleared by: Shane [redacted]

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2. Summary

There is ambiguity in the way Applied Behaviour Analysis (ABA) and Positive Behaviour Support (PBS) are used to describe interventions or disciplines. ABA as a label can be used in wider or more narrow ways and depending on how the term is used it might encompass PBS as well. In the sense employed in much NDIS documentation, PBS is theoretically informed by ABA as an applied research program, while being distinguished from ABA as a specific intervention or therapy programme.

There is moderate level evidence that intensive ABA programs reduce behaviours of concern. However, no information on dosage was found.

While there are some intensive ABA programmes that can only be run by Board Certified Behaviour Analysts, some ABA-informed programs can be run by qualified health professionals (e.g Occupational Therapists, Speech Therapists) for which the programme is within their scope of practice. Positive behaviour support practitioners require specific registration through the NDIS Quality and Safeguards Commission in order to provide behavioural assessments and behaviour support plans for NDIS participants. However, I cannot find any evidence that “behaviour support practitioner” or “positive behaviour support practitioner” are regulated terms outside of their use in the context of NDIS registered providers.

3. Applied behaviour analysis

The definition of ABA used in the NDIA commissioned AutismCRC report *Interventions for children on the autism spectrum: A synthesis of research evidence* is:

the scientific application of behavioural principles to, first, identify variables that are responsible for behavioural change, and second, to use these variables to improve socially significant behaviours (Whitehouse et al., 2020, p.31).

This definition is derived from Cooper et al (2020), who say:

Applied behaviour analysis is the science in which tactics derived from the principles of behaviour are applied systematically to improve socially significant behaviour and experimentation is used to identify the variables responsible for behaviour change (Cooper et al., 2020, p.19).

As both these definitions show, the practice of ABA is intended to improve socially significant behaviours. This is a very broad category of behaviours that can include:



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social, language, academic, daily living, self-care, vocational, and/or recreation and leisure behaviours that improve the day-to-day life experience of the participants and/or affect their significant others (parents, teachers, peers, employers) in such a way that they behave more positively with and toward the participant (Cooper et al., 2020, p.16).

For reasons of terminological clarity, we should also note that ABA is used by Cooper et al to refer to an applied research program. Cooper et al (2020) distinguish between ABA as a research discipline on the one hand, and on the other, professional practice in which insights from ABA are integrated into frontline services for use by participants, family, teachers or trained therapists. Whitehouse et al. (2020) use ABA to refer to both the applied research program and its application by Board Certified Behaviour Analysts. They distinguish ABA as applied by Board Certified Behaviour Analysts from derivative forms of behavioural intervention which might depend on ABA principles but diverge in some way. They cite, for example, Naturalistic Development Behavioural Interventions, Picture Exchange Communication System, Early Start Denver Model and Positive Behaviour Support. Rogers et al list interventions they consider a kind of intensive ABA-type therapy, including Murdoch Early Intervention Program, Early intensive behavioural intervention, Early start denver model, Comprehensive intensive early intervention and Intensive behaviour analytic treatment (Rogers et al, 2020).

4. Positive behaviour support

The NDIS Quality and Safeguard Commission Positive Behaviour Support Capability Framework defines PBS as:

the integration of the contemporary ideology of disability service provision with the clinical framework of applied behaviour analysis. Positive behaviour supports are supported by evidence encompassing strategies and methods that aim to increase the person's quality of life and reduce challenging behaviour (NDIS Quality and Safeguards Commission, 2019, p.5).

The idea that PBS is ABA plus “the contemporary ideology of disability” refers to Carr et al.'s suggestion that PBS emerged from three sources including ABA, the normalisation/inclusion movement and person-centred values (Carr et al, 2002). There is some question about whether PBS is a kind of ABA, or just informed or otherwise related to it (Whitehouse et al, 2020). It is also not clear what the practical implications of this question are.

Like ABA, PBS focusses on socially significant behaviours though its target behaviours are restricted to challenging or problematic behaviours. There is no agreed terminology used to describe challenging or problematic behaviours. Synonyms used include: behaviours of concern, challenging behaviour, behaviour that challenges, maladaptive behaviour, interfering behaviour, disruptive behaviour, problem behaviour and problematic behaviour (Whitehouse et al, 2020; Rogers et al, 2020).

UK's National Autism Centre defines problem behaviours as behaviour that:



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can harm the individual or others OR result in damage to objects OR interfere with the expected routines in the community. Problem behaviors may include but are not restricted to self-injury, aggression, disruption, destruction of property, or hazardous or sexually inappropriate behaviors (National Autism Centre, 2015, p.39).

UK's National Institute of Healthcare Excellence also considers stereotypic behaviour and withdrawal to be challenging behaviours (NICE, 2015). Whitehouse et al. use the definition:

Challenging behavior refers to certain behaviors that a person engages in which negatively affect his/her daily functioning. These behaviors are often recognized as being culturally abnormal and occur at such an intensity, frequency, or duration that the safety of the person and/or others is placed in jeopardy. Challenging behaviors may be related to social, academic, communicative, cognitive, vocational, or physical domains, may serve various functions, and should be examined systematically in order to identify these functions (Whitehouse et al, 2020, pp.122-123).

While PBS targets specific behaviours, strategies to address those behaviours take account of “a person’s needs, their home environment and overall quality of life through assessment, planning and intervention” ([Practice Guidance – Behaviour Support and Behaviours of Concern](#)). This relates to another core feature of PBS cited by the NDIS commission: PBS aims to reduce and eliminate restrictive practice ([NDIS Quality and Safeguards Commission, 2022, Glossary](#)).

5. Intensive Applied Behaviour Analysis and behaviours of concern

Whitehouse et al. (2020) summarise evidence from systematic reviews which track the effect of behavioural techniques on challenging behaviours. In three systematic reviews including a variety of behavioural interventions, they note a moderate level of evidence indicating a positive effect on challenging behaviours. Regarding specific interventions, they note that there is low level evidence that Functional Communication Training and Discrete Trial training have a positive effect on challenging behaviours and moderate level of evidence that Early intensive behavioural intervention has a null effect on challenging behaviours.

The UK's National Autism Centre report (2015) notes that behavioural interventions can reduce problem behaviours for people aged 3 – 22 years old. More specifically, ABA type programs delivered 25-40 hours per week for 2-3 years are shown to reduce problem behaviours for children aged 0 – 9. More recently, a team from the US-based National Clearinghouse on Autism Evidence and Practice found Functional Communication Training – an off-shoot of ABA – has a positive effect on reducing behaviours of concern for children 3 – 18 years. They also found Discrete Trial Training – another ABA off-shoot – can be effective at reducing behaviours of concern in children aged 6 – 11 years (Steinbrenner et al, 2020).

However, due to the layout of both the National Autism Centre report and the Clearinghouse on Autism Evidence and Practice report, it is not clear from which studies they derived the confident assessment that ABA-type therapies can reduce problem behaviours. This is important as other reviews make more tentative claims. Rogers et al (2020) reviewed 20 intensive ABA studies and found one noting reduction in behaviours of concern but results were not statistically significant. In their systematic review, Reichow et al (2018) considered 2 studies which tracked problem behaviours. They found very low-quality evidence that EBEL did not have a statistically significant difference effect at reducing behaviours of concern compared to therapy as usual control. However, given the growth of autism research in the last 5 years, currency is a problem for this review (Whitehouse et al, 2020).

This brief summary does show some evidence for effectiveness of ABA-type therapies in reducing behaviours of concern. There are some inconsistencies in results and the research could be of higher quality. It is also worth noting that none of the reviews spoke to the dosage required to effect a reduction in behaviours of concern. While 25-40 hours per week is noted as the dosage in the National Autism Centre report, it is not clear from the evidence reviewed that this level of therapy is required to achieve the outcomes stated or that other therapies derived from ABA have this level of implementation.

Also of note, there is evidence that other types of therapies are also effective at reducing behaviours of concern. For example, of 28 evidence-based practices that Steinbrenner et al consider, only 2 did not show some effect at reducing behaviours of concern for some age group of children or young adults.

Reichow et al conclude their review by saying:

Given the lack of high-quality, generalizable evidence to determine the effects of Early Intensive Behavioural Intervention (EIBI) for ASD, it is important that decisions about its use are made on a case-by-case basis. It is also important that providers of EIBI are aware of the limited quality of the current evidence and use clinical decision-making guidelines, such as seeking the family's input and drawing upon prior clinical experience, when making recommendations to clients on the use of EIBI (Reichow et al, 2018, p.17).

6. Practitioner qualifications and registration requirements

6.1 Board Certified Behaviour Analysts

ABA practitioners should be qualified, regulated and deliver services that are within the scope of their clinical practice. Unlike other allied health professionals in Australia, ABA practitioners are currently accredited internationally by the Behavior Analyst Certification Board (BACB) based in USA (Whitehouse et al, 2020; Association for Behaviour Analysis Australia, n.d).

BACB provide certification for:



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- Registered Behavior Technician (RBT) – works under supervision of BCaBA and BACB
- Board Certified Assistant Behavior Analyst (BCaBA) – works under supervision of BACB
- Board Certified Behavior Analyst (BCBA) – works independently and can supervise RBT and BCaBA (Behaviour Analysis Certification Board, n.d, [Board Certified Behavior Analyst](#)).

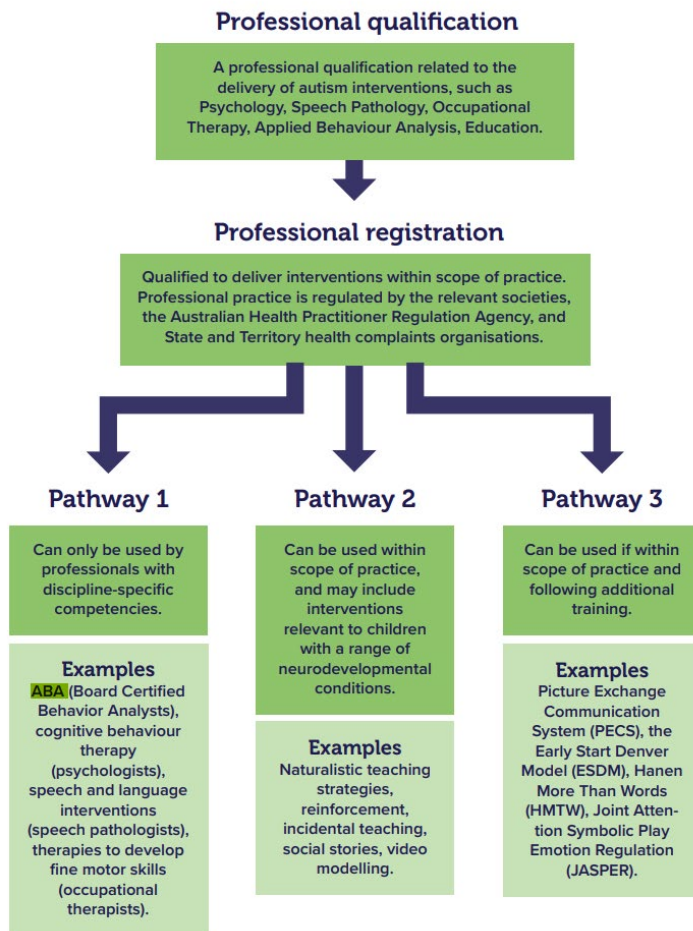
To gain and maintain accreditation as a BACB, a practitioner needs to:

- complete a recognised course or equivalent professional experience
- pass an exam
- meet continuing education requirements
- adhere to ethics requirements
- recertify every 2 years (Behaviour Analysis Certification Board, n.d, [Credentials](#)).

Association for Behaviour Analysis Australia has expressed their intention to take up regulation and accreditation of ABA practitioners in Australia:

As of December 2019 the BACB announced that it will limit certification to a select number of countries. Currently, Australia is one of the countries where BACB certification is still available but the longevity of this option is unknown. This has highlighted the need for Australia to have its own regulatory body for behaviour analysts. ABA Australia saw the need of our field and felt that it was inline with our mission and objectives to take on this challenge and continue our efforts to disseminate safe and ethical practice of ABA (Association for Behaviour Analysis Australia, n.d, [Professional Self-Regulation](#)).

Not all interventions which incorporate the principles or strategies of ABA are restricted to certified BCBA's. The figure below from Whitehouse et al (2020, p.47) describes different pathways by which ABA-type or associated interventions can be practiced.



6.2 Behaviour support and the NDIS

Specialist behaviour support is provided through a participant's NDIS plan through the Improved Relationships budget using line items:

- Specialist Behavioural Intervention Support
- Behaviour Management Plan Including Training in Behaviour Management Strategies

A registered specialist behaviour support practitioner must develop all functional behaviour assessments and Behaviour Support Plans, as positive behaviour support practice requires a specific skillset and appropriate safeguards ([Practice Guidance – Behaviour Support and Behaviours of Concern](#)). An NDIS behaviour support practitioner must be deemed suitable by the NDIS Quality and Safeguard Commission ([NDIS Restrictive Practices and Behaviour Support Rules 2018](#), s17). To be deemed suitable the practitioner must be qualified, experienced and must have considered their professional development alongside the [Positive Behaviour Support Capability Framework](#) (NDIS Quality and Safeguards Commission, 2022, [Fact sheet: New behaviour support practitioners](#)).



The above is required for a practitioner to provide positive behaviour support to NDIS participants. There may be qualified and practicing behaviour support practitioners who are not NDIS behaviour support practitioners. I cannot find any evidence that “behaviour support practitioner” or “positive behaviour support practitioner” are regulated terms outside of their use in the context of NDIS registered providers.

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North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, National Clearinghouse on Autism Evidence and Practice Review Team.

Whitehouse, A., Varcin, K., Waddington, H., Sulek, R., Bent, C., Ashburner, J., Eapen, V., Goodall, E., Hudry, K., Roberts, J., Silove, N., Trembath, D. (2020). Interventions for children on the autism spectrum: A synthesis of research evidence. Autism CRC, Brisbane.

8. Version control

Version	Amended by	Brief Description of Change	Status	Date
1.0	Aaron <small>s22(1)(a)(i) - irrelevant ma</small>	Research focussing on relationship between ABA and PBS	Draft	25/07/2022

Reducing Applied Behaviour Analysis over time

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Research question: Is there substantial evidence that a step-down transition away from Applied Behaviour Analysis (ABA) therapy can provide outcomes and be of benefit?

Date: 3/1/24

Requestor: Star [redacted]

Endorsed by: Naomi [redacted]

Researcher: Stephanie [redacted], Aaron [redacted]

Cleared by: Stephanie [redacted]

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Literature Review

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2. Summary

This paper considers the evidence for a step-down model of reducing frequency or intensity of applied behaviour analysis (ABA). No evidence was found regarding the effectiveness of a step-down model. One international ABA accreditation body, the Behavioral Health Center of Excellence, recommends a gradual reduction in hours when concluding ABA therapy.

Five papers were attached with the research request. None of the papers directly relate to the efficacy of a step-down model of reducing ABA supports.

Previous TAPIB research has found a lack of consensus regarding appropriate intensity and duration of ABA therapy. Recent Australian guidelines on the delivery of supports for children with autism note that supports should be individualised and there is no set number of hours of therapy which are appropriate for every child.

3. Previous TAPIB research papers

Previous TAPIB research papers related to ABA include:

- [RES 246 ABA and positive behaviour support.docx](#)
- [RES 292 Applied behaviour analysis for adults with ASD.docx](#)

RES 246 found no evidence for appropriate frequency, intensity or timeframe of ABA required to affect a reduction in behaviours of concern, nor any information on reducing intensity of support over time.

RES 292 found lack of consensus regarding appropriate frequency, intensity or timeframe of ABA. The studies review in this paper emphasised that an individualised approach to determining frequency, intensity and timeframe of supports is required.

4. Review of Provided Literature

Five papers were attached with the research request (refer to [6. Literature Review](#) table for further details). None of the attached papers were directly relevant to the research question. None of the papers reviewed directly addressed the benefits of an extended timeframe of supports or the benefits of slowly reducing ABA support over time. No quality assessment was completed due to lack of relevance to the research question.

5. Other sources

The Behavioral Health Center of Excellence (BHCE) is a private organisation that offers accreditation of applied behaviour analysts. They suggest fading out services gradually based on the needs of the client (BHCE, n.d.). However, BHCE provide no evidence on which they base this recommendation.



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Autism CRC's recent *National Guideline for supporting the learning, participation, and wellbeing of autistic children and their families in Australia* (Trembath et al, 2022), makes the following recommendations around duration of supports:

56.1 The amount and duration of support provision should be tailored to the individual needs of the child and family. This includes consideration of the frequency, length, and time of day of support sessions, and variations in support needs over time.

56.3 Practitioners should inform parents that there is no set number of hours per week of practitioner delivered child-directed supports that leads to the best outcomes for all children.

56.4 Practitioners should be aware that research evidence does not support the concept that supports delivered in greater amounts consistently lead to better child and family outcomes (Trembath et al, 2022, pp.95-96).

The *National Guideline* does not discuss reducing therapy over time.



Literature Review

OFFICIAL For Internal Use Only**6. Literature review table**

The following papers were attached with the research request.

	Author / Date	Title	Study aim/objective	Relevance to Current Research Question	Quality of included evidence (high/medium/low/very low)
1	Camargo et al 2014	A review of the quality of behaviourally-based intervention research to improve social interaction skills of children with ASD in inclusive settings	Whether ABA improves social interactions for children with ASD; whether ABA can be considered evidence based.	Not relevant. Paper discusses behavioural components of some interventions for children with autism but does not discuss frequency/intensity of ABA or reducing therapy over time.	N/A
2	Steinbrenner et al 2020	Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder	Purpose of report is to “describe a set of practices that have clear evidence of positive effects with autistic children and youth”	Not relevant. Report discusses efficacy of multiple ABA programs but does not discuss frequency/intensity or timeframe of supports.	N/A
3	Kadar et al 2012	Evidence-based practice in occupational therapy services for children with autism	“identify how occupational therapy practice may have changed over the last decade and to explore what additional	Not relevant. Paper briefly mentions ‘behavioural approaches’ but does not discuss ABA,	N/A



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	Author / Date	Title	Study aim/objective	Relevance to Current Research Question	Quality of included evidence (high/medium/low/very low)
		spectrum disorders in Victoria, Australia	developments are required in the field” to support children with ASD	reducing therapy over time or frequency/intensity of supports for children with autism.	
4	National Autism Center 2015	Findings and Conclusions: National Standards Project, Phase 2.	“provide up-to-date information on the effectiveness of a broad range of interventions for ASD”	Partially relevant. Paper discusses efficacy of behavioural approaches including interventions classed as ABA. Intensity and timeframe of therapy is discussed for Comprehensive Behavioral Treatment for Young Children (CBTYC), often described as ABA. CBTYC is described as an effective evidence-based practice but does not discuss whether the intensity or timeframe of the intervention is	N/A



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	Author / Date	Title	Study aim/objective	Relevance to Current Research Question	Quality of included evidence (high/medium/low/very low)
				necessary to achieve benefits. Paper did not discuss reducing therapy supports over time Report states that intensity of therapy is a topic requiring further research and did not discuss frequency or intensity for other ABA therapies.	
5	Ivy & Schreck 2016	The Efficacy of ABA for Individuals with Autism Across the Lifespan	Editorial/narrative review regarding the efficacy of ABA across the lifespan for individuals with ASD.	Not relevant. Paper discusses efficacy of ABA but does not discuss frequency/intensity of therapy or reducing therapy over time.	N/A



Literature Review

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7. References

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