Understanding ABA:
A Quick Reference Guide on Applied Behaviour Analysis for Families

What is Applied Behaviour Analysis?

Applied Behaviour Analysis (ABA) is a science focused on how environments can be adapted to promote the best possible outcomes for individuals, families, and communities. ABA is often used to teach skills that promote safety and independence, and is also frequently used to solve problems that may be negatively impacting a person's quality of life.

When using ABA, clinicians look at behaviour as *functional*. That is, they understand that behaviour does not occur in a vacuum, and is often the result of a complex relationship with the people, places and things that we interact with everyday. Those behaviours can be very visible (such as running, tying your shoe, having a conversation with someone) or less visible (such as reading, thinking, or feeling). From an ABA perspective, behaviour is neither "good" nor "bad" and serves an important purpose for an individual who is trying to get their needs met.

Helping people achieve their goals and live their best possible life is the ultimate purpose of ABA.

Who is a Behaviour Analyst?

Behaviour analysts are practitioners who are trained in the science of ABA. Behaviour analysts may be certified (e.g., Behavior Analyst Certification Board; BACB). Some behaviour analysts are also regulated psychologists, speech language pathologists, or psychotherapists. Behaviour analysts use strategies derived from principles discovered in basic laboratory research (e.g., positive reinforcement) to help people achieve meaningful behavioural changes. Certified behaviour analysts have

Positive Reinforcement is when behaviour is strengthened by an event that follows it. For example, if a student regularly talks out in class and this is followed by an adult scolding them, and talking out occurs more often, positive reinforcement may be at play, as the teacher's attention may inadvertently be strengthening the behaviour.

academic training at the graduate level, have completed more than a thousand hours of supervised practice, have passed a written examination on the science, practice and ethics of ABA, and engage in ongoing continuing education activities (courses, conferences, workshops).

People who work directly teaching people are sometimes called "instructor therapists", "front line therapists", "behaviour technicians", or similar names. They usually have college or undergraduate academic training in behaviour analysis and should always be supervised by a graduate level behaviour analyst. (For more information on behaviour analysts visit www.ontaba.org.)

Who do Behaviour Analysts work with?

ABA is most frequently associated with teaching and clinical treatment that helps people living with neurodevelopmental disorders (e.g., autism spectrum disorder, intellectual and developmental disability, attention deficit hyperactivity disorder). This is an effective and important use of ABA. But it is certainly not the only way ABA is used! Over the last several decades, ABA has demonstrated effectiveness with many different populations, such as in the support of persons living with mental health issues, acquired brain injuries, movement disorders, substance abuse disorders, feeding disorders, and dementia. ABA also has a number of non-clinical applications such as home and workplace safety, parenting, education, fitness and sports, and life skills training.

Clinical populations we work with:

- **autism spectrum disorders**
- **attention deficit hyperactivity disorder**
- **intellectual disability**
- **behavioural disorders**
- **acquired brain injuries**
- **dementia**
- **substance use disorders**
- **feeding and movement disorders**

Where do Behaviour Analysts work?

Behaviour analysts work in a diverse array of settings, including clinical and non-clinical environments. Behaviour analysts' focus on the relationship between the environment and behaviour means they often work in natural environment(s), including home, work, community, treatment or education settings.

Settings we work in:

- **developmental service agencies**
- **mental health settings**
- **long-term care facilities**
- **hospitals and outpatient clinics**
- **child care centres**
- **schools**
- **criminal justice system**
- **paediatric and family medicine clinics**
- **camps and recreation centres**
- **athletic facilities**
- **businesses**

Behaviour analysts use each person's individual interests and motivation to teach new skills. For example, a young child who is motivated to play outside who is learning how to tie his shoes may be taught to complete one step in the shoe-tying sequence, and then immediately encouraged to run outside to play. Once the child learns this step, he or she might then be taught to complete two steps in the sequence and then encouraged to play outside, and so on until he or she can independently put on their own shoes before going out to play.

What does a Behaviour Analyst do?

ABA teaching strategies usually involve breaking down complex tasks into small manageable steps, and then applying necessary supports based on each individual's unique learning needs (this can include prompting through gestures, visual supports, or physical support). Behaviour analysts focus on each learner's motivation and try to determine how positive reinforcement can be used to maximize learning.

When problem-solving complex issues like physical aggression or self-injurious behaviour, behaviour analysts use the scientific method to understand behaviour-environment relationships. Typically, this includes:

Carefully observing and measuring the behaviour	Collecting detailed information on how and when the behaviour occurs in the natural environment
Formulating a hypothesis	Using that information to make an educated guess on what environmental events might be influencing the behaviour
Testing that hypothesis	Directly assessing which events contribute to the behaviour occurring or not occurring
Developing a treatment or education plan based on the data	Using the information gathered to create an intervention that teaches more adaptive behavior in a positive fashion
Analyzing the data to determine if the treatment was effective	Graphing and reading the data for evidence of behaviour change at specific times

ABA treatment plans usually include teaching alternative or "replacement" behaviour that the individual can use to get their needs met, while reducing the effectiveness of potentially harmful behaviour like severe self-injury or physical aggression.

Does ABA "work"? Is it evidence–based?

One of the defining features of ABA is that behavioural interventions produce large enough effects that meaningful and positive changes occur in an individual's life. There are a growing number of randomized control trial studies and thousands of single-case research design studies with strong experimental controls demonstrating the effectiveness of ABA[1]. A number of impartial and independent reviews conducted by scientific and regulatory bodies have identified ABA as an evidence-based approach in the treatment of autism spectrum disorders[2], some of those agencies include:

- The US Surgeon General
- The American Psychological Association
- The American Academy of Child and Adolescent Psychiatry
- The American Academy of Pediatrics
- The National Institute of Mental Health (NIMH)
- The National Autism Center (NAC)

Behaviour analysts help people get their needs met safely. For example, an adult who engages in physical aggression toward hospital staff which results in the adult's removal from certain activities (which he/she doesn't like) may be taught to ask to engage in a different activity or to leave the non-preferred activity. This allows the person to exercise their right to choose in a more adaptive way, while also preventing the occurrence of physical aggression.

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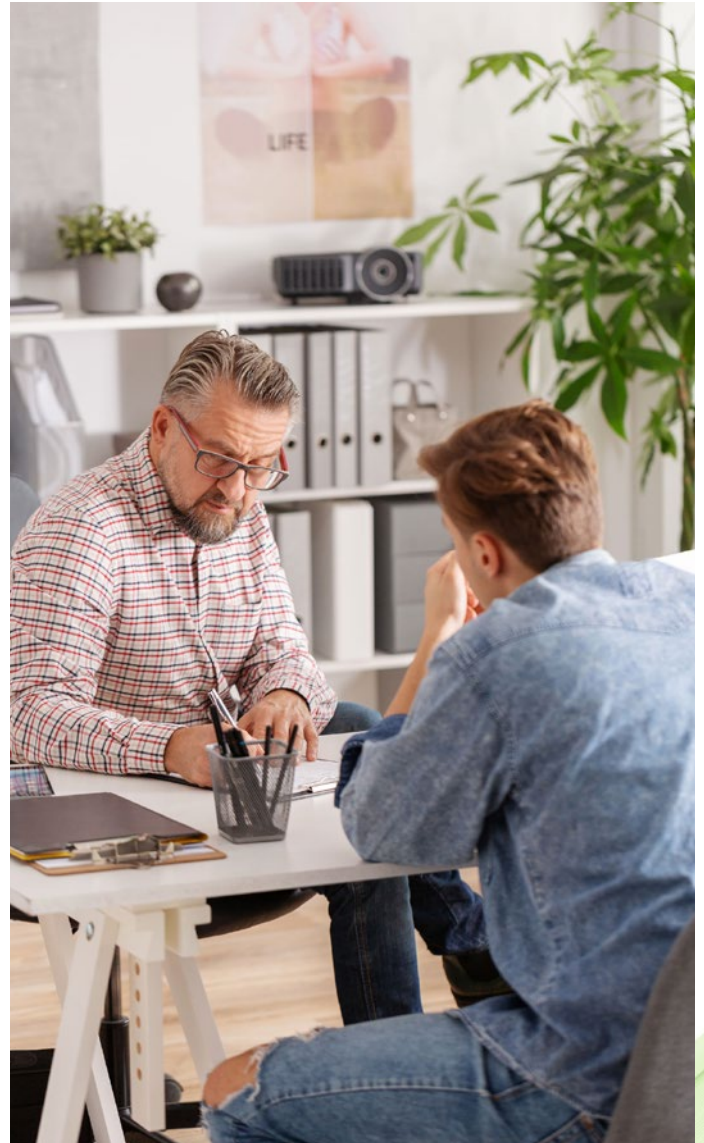
1 Wong, C., Odom, S. L., Hume, K. A., Cox, A. W., Fettig, A., Kucharczyk, S., ... & Schultz, T. R. (2015). Evidence-based practices for children, youth, and young adults with autism spectrum disorder: A comprehensive review. *Journal of autism and developmental disorders*, *45*(7), 1951-1966.

2 Larsson, E. V. (2013). Is applied behavior analysis (ABA) and early intensive behavioral intervention (EIBI) an effective treatment for autism? A cumulative review of impartial reports. The Lovaas Institute for Early Intervention.

The Ontario Association for Behaviour Analysis, Inc.

What are some common misconceptions about ABA?

The way that ABA is applied to support people has developed and changed significantly over the last 50 years. Unfortunately, intrusive historical practices, misapplications by untrained individuals, and the overly technical nature of ABA have contributed to many misconceptions about how ABA is practiced today. There is a great deal of misinformation about ABA on the internet. Here are some common myths:

MYTH: ABA is just a theory.

- Actually, ABA is comprised of principles that have been rigorously demonstrated in experimental research for more than a century. The findings of that research have been replicated across many populations, behaviours, and geographical locations.

MYTH: ABA is a therapy for young children with autism.

- As ABA is the science of learning, it is applicable across many different populations. For example, there are many studies demonstrating the effectiveness of behaviour analytic procedures for substance abuse disorders[3] and for educational interventions for neurotypical learners[4].

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3 Prendergast, M., Podus, D., Finney, J., Greenwell, L., & Roll, J. (2006). Contingency management for treatment of substance use disorders: A meta-analysis. *Addiction*, *101*(11), 1546-1560.

4 Joslyn, P. R., Donaldson, J. M., Austin, J. L., & Vollmer, T. R. (2019). *The good behavior game: A brief review. Journal of Applied Behavior Analysis*, 52(3), 811-815.

MYTH: ABA is inflexible and unnatural, and all about compliance.

- Actually, modern ABA approaches focus on the unique motivation of each learner and use the natural environment to teach important skills. A big focus of ABA treatment is teaching flexibility. Learners are taught a variety of skills in multiple contexts to ensure they are useful in day-to-day life. In ABA, the goals of treatment and training need to be important for the individual and based on their values. Behaviour analysts work with individuals, their families, and their communities to determine which targets and procedures will have the best possible impact on quality of life. ABA programs often focus on providing individuals with communication skills that enhance their independence and ability to advocate for themselves.

MYTH: ABA is a "cookbook" style "one-size-fits-all" intervention.

- One strength of ABA is its focus on individualization. No two individuals will have the exact same treatment program. Behaviour analysts work to understand functional relationships between each person's behaviour and their unique environments, and build teaching and treatment programs based on their specific needs.

MYTH: ABA is harmful or punishing.

- Although early behavioural and psychological treatments sometimes used punishment procedures to treat challenging behaviour, punishment is rarely used and generally discouraged in modern behaviour analytic applications. Punishment procedures (e.g., time-out for hitting another child) are only used when all other reinforcement-based methods have been attempted and a risk of harm remains. While it is true that any therapy can be harmful if misapplied, ABA is not harmful when applied by appropriately trained clinicians. In fact, therapies derived from behaviour analysis have been shown to be effectivein treating mental health disorders, such as post-traumatic stress disorder[5].

MYTH: ABA focuses exclusively on behaviour problems, and is mostly useful for getting rid of "bad" behaviour.

- Actually, the main objective of most ABA programs is on teaching skills that enhance safety and independence (toileting, eating with utensils, traffic safety, learning to communicate, self-advocacy, learning to create and follow a daily schedule, vocational skills, and more). Even when treating behaviours that may be harmful to an individual (e.g., physical aggression or severe self-injury) the focus is typically on teaching alternatives that allow the individual to get their needs met in a safe and practical way. No ABA program should attempt to reduce challenging behaviour in the absence of a significant focus on teaching new skills.

5 Follette, V., & Pistorello, J. (2007). Finding Life Beyond Trauma: Using Acceptance and Commitment Therapy to Heal from Post-Traumatic Stress and Trauma-Related Problems. Oakland, CA: New Harbinger.

What are the "top 5" features of an effective ABA program?[5]

1 **Clients, parents and caregivers are involved in selecting goals and clearly defining what success looks like for each goal.**

- Behaviour analysts work with clients and their family members to identify goals that will be helpful and meaningful to the recipient of ABA services. Goals are prioritized to work on the most important ones first.

2 **Clients, parents, caregivers and other professionals are involved throughout the assessment and treatment process.**

- Behaviour analysts work with parents/caregivers to help them learn as much as possible about the strategies that will most help their loved one.

- Behaviour analysts consult regularly with other professionals, including pediatricians, psychiatrists, psychologists, occupational therapists, speech language pathologists, teachers, and more.

3 **There is a thorough assessment of the specific behaviours related to each goal before any intervention starts.**

- Behaviour analysts assess needs, strengths, and skills to build on, as well as environmental factors that may interfere with success. For example, if a student is refusing to complete work and engaging in disruptive classroom behaviour, the students' skill level should be assessed to determine whether the work is too difficult. If so, adaptations to the student's curriculum may be required.

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6 Association of Professional Behavior Analysts. (2017). Identifying applied behavior analysis interventions. San Diego, CA: Author. Retrieved from: https://www.apbahome.net/page/practiceguidelines

- Behaviour analysts observe and track the specific behaviours that are important for each goal and measure various aspects of the specific behaviour(s) like, how often it happens, how intense it is, or how long it lasts. For example: How many grade four math questions did the student complete? How long did the student stay on-task?

- For goals that involve reducing certain behaviours, behaviour analysts carry out a functional behaviour assessment (FBA) which is a carefully constructed assessment of the conditions that make the behaviour more or less likely to happen - essentially, behaviour analysts try to figure out "why" the behaviour is happening; behaviour analysts use this information to identify behaviour(s) that will meet the client's needs in a safe and effective manner. For example, the student might be taught replacement behaviours like asking for a break or raising a hand in class for help instead of screaming.

- Behaviour analysts identify what motivates the person and/or identify the activities and things the person seems to really enjoy and use this information to develop positive and effective interventions.

4 **There is a clear, step-by-step individualized education or treatment plan.**

- Behaviour analysts create a systematic, written plan, with specific instructions for implementation.

- The plan is uniquely designed for the person, based directly on the assessment findings.

- All the strategies in the plan are based on the principles of behaviour (the science that ABA comes from).

- Any methods or protocols included in the plan have proven effectiveness (are evidence-based).

- The plan incorporates resources and strengths that are already in the natural environment.

- The plan is made to be flexible and changes can be made if needed.

- There is a built-in plan to ensure lasting behaviour change (maintenance).

- There is a built-in plan to extend the strategies or skill development to other aspects of the person's life (generalization).

5 **There is ongoing monitoring of progress on the identified goals over time to make sure that progress is happening.**

- Behaviour analysts collect data in order to evaluate the target behaviours and adjust the plan as needed until the goals are met.

- Data collection will involve direct observation and measurement of the target behaviours.

- Behaviour analysts share data frequently with all stakeholders (with consent) and explain clearly what it means and how it is being used to inform next steps.