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OPINIONS & PERSPECTIVES

None of the As in ABA stand for autism: Dispelling the myths*

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Introduction

Interventions that are based on scientific principles of applied behaviour analysis (ABA) are recognised as effective treatments for children with autism spectrum disorder (ASD) by many governments and professionals (Office of the Surgeon General, 2000; Ontario IBI Initiative, 2002). However, many still view ABA as one of many treatments for autism and contend that it should be part of an eclectic mix of interventions. This paper addresses this issue by outlining what ABA is and how ABA is related to the array of treatments for ASD. With approximately 1 in 100 children diagnosed with ASD, it is important for professionals to understand ABA accurately.

Getting it right

ABA is not a “therapy for autism” (Chiesa, 2005); instead, it is the science on which a wide range of techniques are based that have been used to help people with a variety of behaviours and diagnoses, autism being one of them.

Like most other sciences, behaviour analysis encapsulates three distinct but related fields:

- (1) Philosophy of the science: *behaviourism*.
- (2) Basic experimental research: *Experimental analysis of behaviour*.
- (3) Applied research: *Applied behaviour analysis* (ABA).

(1) Behaviourism: The philosophy of the science of behaviour

Behaviourism defines behaviour as anything a person does. Behaviour can have one or more dimensions, such as frequency, duration, and/or latency; can be overt (public) or covert (private); can be observed and recorded by one (self) or more persons; and is lawful, in as much as it is influenced by environmental events.

The key point of behaviourism is that what people do can be understood. Traditionally, both the layperson and psychologist have tried to understand behaviour by seeing it as an outcome of what we think, what we feel, what we want, what we calculate, and etcetera. But we don't have to think about behavior that way. We could look upon it as a process that occurs in its own right and has its own causes. And those causes are very often found in the external environment. (Cooper, Heron, & Heward, 2007, p. 15)

One of the main advantages of defining behaviour as “anything a person does,” apart from being inherently a holistic perspective, is the way that it permits “private behaviour” (e.g., thinking and cognitions, and feelings and emotions) to be considered when developing explanations. A child who behaves in certain ways (e.g., makes no social contact, engages in repetitive, self-stimulatory behaviour) is typically said to *have* ASD, and ASD is referred to then as the reason (i.e., cause or

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explanation) for the said behaviours; “he does this because he *has* ASD.” In reality though, the term ASD is merely a “summary label” (Grant & Evans, 1994) for the full range of the child’s behaviours, not the cause of them.

The philosophical basis of modern behaviour analysis stems from the early work of Skinner (e.g., Skinner, 1938) and sits in stark contrast to the earlier methodological behaviourism, in which only publicly observable behaviour was considered relevant to psychology (Leigland, 1992). In contrast, today’s behaviour analysts consider “everything a dead man cannot do” as in the purview of analysis.

(2) *Experimental analysis of behaviour*

The laboratory-based experimental analysis of behaviour has evolved from over 100 years of research and has led to the discovery of many principles of behaviour; for example, respondent (or classical) conditioning, operant conditioning, derived relational responding, and so forth (Sidman, 1994).

(3) *Applied behaviour analysis (ABA)*

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., 2007, p. 20)

ABA brings improvements and change in socially relevant behaviours within the context of the individual’s social environment; is conducted within the scientific framework; focuses on functional relationships and replicable procedures; is conceptually systematic and reflective; achieves measurable changes in relevant target behaviours that last across time and environments; is accountable, public, doable, empowering, optimistic; and is more effective than eclectic treatments. Aversive methods are avoided in favour of interventions based on functional assessment and functional analysis and positive reinforcement.

Dispelling the myths about ABA and autism

The effectiveness of ABA-based intervention in ASDs has been well documented through 5 decades of research by using single-subject methodology and in controlled studies of comprehensive early intensive behavioural intervention programs in university and community settings. (Myers & Johnson, 2007, p. 1164)

Many lay people as well as professionals equate the pioneering work of Lovaas (1987) with ABA. However, behaviour analysts at the Princeton Child Development Institute demonstrated the effectiveness of early, comprehensive, intensive ABA 2 years prior to the publication of Lovaas’s study (Ferster & DeMyer, 1961). Since then, more than 19,000 papers have been published using ABA within a variety of areas, including well over 500 studies concentrating on children with ASD (Anderson & Romanczyk, 1999).

When ABA is mistakenly categorised as a therapy for autism, rather than as a science, it is listed alongside a range of techniques such as *Discrete Trial Training* (DTT), *Picture Exchange Communication System* (PECS), *Verbal Behavior Analysis* (VBA), Precision Teaching, generalisation and skill maintenance training, *Pivotal Response Training* (PRT), prompting and prompt fading, imitation and instruction, *Aggression Replacement Training* (ART), shaping, *Intensive Behavioural Intervention* (IBI), chaining, differential reinforcement, incidental teaching, extinction, and others (Green, 1996). However, it is the knowledge base gathered from the science of ABA that underpins all of these techniques. For practitioners, this means that learning specific techniques is not the same as learning the science.

Training and professional certification

The Behavior Analyst Certification Board (BACB, 2007) certifies and regulates ABA professionals. There are two levels of certification. *Board Certified Behavior Analysts* (BCBA) must have at least Masters degree level training in behaviour analysis as well as 1,500 hours supervised independent fieldwork experience prior to taking a rigorous 4-hour exam. At present there are nearly 3,500 BCBA’s worldwide. *Board Certified Associate Behavior Analysts* (BCABA), who since January 2009 are now termed Board Certified assistant Behavior Analysts (BCaBA), must have at least Bachelor degree level training in behaviour analysis and 1,000 hours supervised independent fieldwork experience prior to taking the exam, and must be supervised by a BCBA afterwards.

Discussion

In this paper we made three important points to dispel the myths of the relationship between ABA and autism treatment:

- (1) ABA is an applied science that has evolved from more than 100 years of research.

- (2) This scientific research has produced a wealth of evidence-based intervention procedures, which are in turn derived from or related to several more basic behavioural principles.
- (3) These procedures have been applied with considerable success in the treatment of autism. However, readers should not equate ABA with any particular application or program (e.g., Discrete Trial Training).

The scientific method applied to the study of individual's behaviours was pioneered by ABA. It is not autism specific, but it guides the development of techniques that address any socially relevant behaviour. When applied to children who display autistic behaviours, ABA is method driven only in the sense that the scientific method guides decision making with respect to data collected. By responding to the specific needs of each individual within their social context, ABA offers a holistic and comprehensive alternative to an eclectic mixture of techniques that are not anchored in a science of behaviour (Howard, Sparkman, Cohen, Green, & Stanislaw, 2005; Zachor, Ben-Itzhak, Rabinovich, & Lahat, 2007).

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