

ABA-based interventions for individuals with Down's syndrome

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More than forty years of research have well documented that interventions based on the science of Applied Behaviour Analysis (ABA) are the best available choice for children with Autistic Spectrum Disorders (ASD). This can be claimed since ABA-based interventions have proven to effectively develop social and communication skills, reduce inappropriate behaviours (e.g., aggressive behaviours, stereotyped behaviours), and facilitate meaningful inclusion (e.g., New Zealand Guidelines Group, 2008; Surgeon General, 1999).

The fact that evidence-based interventions driven from ABA have shown to be effective for children with ASD has often lead to the misconception that ABA is synonymous to a “therapy for autism” and that it can only be used to design interventions for children with ASD. As some authors have already pointed out (e.g., Dillenburger & Keenan, 2009), this is a myth. ABA is the science that focuses on socially significant human behaviour (Cooper, Heron, & Heward, 2007), thus it can and should be the basis for the design of an effective intervention for improving any aspect of human behaviour (e.g., increasing communication, social, or academic skills and decreasing inappropriate behaviours such as aggressive or self-injurious behaviours) for any population (e.g., adults with aphasia, children with ASD, adults learning a second language, children with Down's syndrome, etc.). In the last decades, and as the scientific evidence for the effectiveness of ABA-based interventions for individuals with

ASD has dramatically increased, there is a parallel increase of research activity in relation to the effectiveness of ABA-based interventions for other populations. This research activity has included children with Down's syndrome, children with learning disorders, individuals with eating disorders, individuals exhibiting gambling behaviours, adults with depression, post-stroke aphasia patients, and numerous other areas (e.g. respectively, Athens, Vollmer, Sloman, & St Peter Pipkin, 2008; Sidman & Kirk, 1974; Seiverling, Williams, Sturmey, & Hart, 2012; Nastally, Dixon, & Jackson, 2010; Kanter, Callaghan, Landes, Busch, & Brown, 2004; Baker, LeBlanc, & Raetz, 2008).

More in detail, research on the effectiveness of specific procedures derived from the science of ABA for teaching different skills to children with Down's syndrome have yielded consistently positive results. In 1973, Dalton, Rubino, and Hislop showed how the implementation of a token economy system could effectively produce improvements in the performance of 13 children with Down's syndrome with ages ranging from 6 to 14 years old. In 1978, Farb and Throne put in place a training program with the aim to improve the generalized mnemonic performance (i.e., memory) of a 7 years old girl with Down's syndrome. In 1989, Drash, Raver, Murrin, and Tudor compared three procedures aiming to increase the early vocal responses of 25 children with Down's syndrome and concluded that light-dimming and screening combined with positive reinforcement produced the most significant increases. In a study published in 1993 (Lalli, Browder, Mace, & Brown) including a 10 years old boy with Down's syndrome, the authors proved the effectiveness of a behaviour-analytic procedure in decreasing students' problem behaviour and concurrently increasing their verbal skills during natural classroom activities taking place in a

public school. In a study conducted with five children among whom two boys with Down's syndrome, McComas, Thompson, and Johnson (2003) showed how functional analysis methodology, one of the most rigorously tested methodologies in behaviour analysis, can prove effective in identifying the underlying causes of problem behaviors and thus assist in putting effective interventions in place. Finally, some other authors (Athens, Vollmer, Sloman, & St Peter Pipkin, 2008) demonstrated how to reduce vocal stereotypies of an 11-year old boy with Down's syndrome and autism. For a detailed review on the use of analysis, assessment, and interventions derived from ABA to treat challenging behaviours shown by individuals with Down's syndrome, the readers are encouraged to visit Feeley and Jones' (2006) study.

The list of studies testing the effectiveness of behaviour-analytic procedures with children, teenagers, and adults with Down's syndrome is not infinite yet but there are already robust research results indicating the beneficial effects that can be gathered from using ABA-based interventions for this population. The above mentioned studies constitute only a small number out of the entire existing literature; thus, researchers, practitioners, parents, and policy-makers are encouraged not to rely only on these sources. A detailed investigation should be conducted in order to identify all the available evidence up to this moment in relation to the use of ABA with individuals with Down's syndrome.

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