Assessing Behavioural Flexibility in Children with Autism Spectrum Disorder Using Play-Based Procedures

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Declaration of Originality

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A paper, entitled *Functional analysis of insistence on sameness in an 11-year old boy with Asperger syndrome*, is located in full, in Chapter 5. The candidate was the primary author, contributing 80%, and with author 1, authors 3 (3.5%), 4 (3.5%), and 5 (3.5%) contributed to the idea, its formalisation and development. Author 1 also assisted with refinement and presentation (9.5%).

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Statement of Ethical Conduct

The research conducted for the purpose of this thesis abides by the international and Australian codes on human and ethical experimentation, and ethical principles and procedures have been followed in accordance with National Health and Medical Research Council guidelines. Ethical clearance was obtained from the Human Research Ethics committee (Tasmania).

Nadia Daniela Ollington                      Date
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Abstract

Insistence on sameness and resistance to change are key characteristics of autism spectrum disorder (ASD). These ASD traits are known to cause severe problem behaviour, stress, and anxiety, and often continue well into adulthood, frequently leading to ongoing tension for the parents and caregivers of individuals with the disorder. This lack of behavioural flexibility is suggested to be “higher order” behaviour more common in individuals with “high functioning autism”, and is also known to occur in other developmental disorders, as well as during the early years of typical development. There is very little empirical research within the scientific literature that investigates the nature and assessment of insistence on sameness and resistance to change, despite positive indications for function-based treatment to increase behavioural flexibility. More specifically, it is not known if insistence on sameness and resistance to change is functional and, as such, motivated by some type of environmental change that operates as reinforcement for the behavioural acts related to it. This thesis contributes empirically to this emergent field of research, and develops new ways to address the problem behaviours associated with insistence on sameness and resistance to change in children with ASD.

There are three components to this research that examine a novel play-based functional assessment procedure constructed around the Behavioural Flexibility Rating Scale-Revised (BFRS-R, Green, et al., 2007), and modelled on the procedures of Green et al. (2008), and Iwata, Dorsey, Slifer, Bauman, and Richman (1982/1994). As the BFRS-R is a relatively new instrument, the first study examined aspects for validation of this scale that have not previously been investigated. The
parents of 43 children with and without ASD responded to a battery of behavioural assessments, including a focus on flexible behaviour. Parents reported greater levels of inflexible behaviour in children with high functioning autism (HFA) and low functioning autism (LFA) than typically developing children, as well as differences surrounding the function of the behaviour among these three groups. The study also identified distinct items on the BFRS-R that may be particularly useful in differentiating between ASD and typical development. In addition to this, the study demonstrated that the extent of children’s behavioural flexibility may be associated with further characteristics of ASD, over and above group status (i.e. typically developing, HFA, LFA).

The second and third studies investigated the novel functional play-based assessment procedure for identifying the motivational properties of problem behaviour associated with a lack of behavioural flexibility. The play-based functional assessment used three scenarios that were created to correspond with parent-reported situations of insistence on sameness and resistance to change on the BFRS-R (Green, et al., 2007), with problem behaviour observed under four conditions (gaining access to tangible items, gaining social attention, escaping the situation, restoring the environment to its previous state) in a multi-element format. The second study examined insistence on sameness and resistance to change in an 11-year old boy with Asperger syndrome. The third study further evaluated the play-based functional assessment by comparison with a corresponding indirect assessment, the Motivation Assessment Scale (MAS, Durand & Crimmins, 1992). In this study the results for two boys (a typically developing 4-year old, and a six-year old boy with autism) were compared. Overall, the play-based functional assessment appears to be
particularly useful for children with ASD. The play-based functional assessment was successful in occasioning insistence on sameness and resistance to change, and was able to differentiate motivations for insistence on sameness and resistance to change in the child’s natural environment according to the specific scenarios in which they occurred. That is, observations suggested that problem behaviours related to a lack of behavioural flexibility may be motivated by specific types of environmental consequences, and that the specific maintaining consequence may be dependent on the type of scenario in effect.

Taken together, the findings of this series of studies have important implications in terms of the assessment of possible idiosyncratic inflexible behaviours in children with ASD. The play-based functional assessment demonstrates the potential to inform early targeted function-based treatments for children with ASD by providing a context for the type of intervention required, thus decreasing the risk for these behaviours to become ingrained.
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