

Developing an Adapted Physical Activity Intervention for Children with Autism and learning Disabilities

Crawford, S., MacDonncha, C., & Smyth. P.J., examined the first Irish Application of an Adapted Physical Activity Intervention Programme for Children with Autism and Co-occurring Learning Disabilities, completed in October 2007.

Previous research indicated that children with autism had difficulties in the areas of social responsiveness (Wing, 2002; Frith, 2003; O'Connor, French & Henderson, 2000) and motor development (Reid & O'Connor, 2003; Prupas & Reid, 2001). Further research (Prupas & Reid, 2001; Henderson & Sugden, 2007) demonstrated that adapted physical activity was a means of addressing these issues. Hence this research sought to assess the effects of individualised adapted physical activity programmes, on the movement ability and social responsiveness of children with autism and co-occurring learning disabilities.

Seventeen students with autism and learning disabilities participated in an adapted physical activity intervention over a 10-week period three times per week, in a special school setting. A non-active group (n=7) with motor impairment and co-occurring learning disabilities were used as control.

Results of paired t tests indicated significant improvements occurred for the intervention group in ball skills, static and dynamic balance, social communication, social motivation and autistic mannerisms. In the pupil evaluation checklist statistically significant improvements occurred in physical, intellectual, social, emotional and attitude components for the intervention group. Overall results indicate the benefits of APA programmes in promoting movement ability and social responsiveness, for children with autism and co-occurring learning disabilities if frequency and duration of programmes are addressed. Further, appropriate support and training for teachers and special needs assistants is essential to deliver quality APA programmes to this population. For those children who did not attain change following intervention, an intensive applied behaviour analysis programme (Lovaas, 1987) with combined support from an occupational therapist should prove more effective (Sugden & Chambers, 2007).

This research clearly indicates the importance of adapted physical activity programmes for children with autism and co-occurring learning disabilities. Recommendations from the research indicated the importance of appropriate training for parents, teachers and other personnel in the delivery of such programmes. Currently the development of an autism training resource pack is underway and is anticipated to be available to schools and community before Christmas.

Further research examining the delivery of programmes to this specific group using applied behaviour analysis is being developed and findings will be reported in due course. A book on autism and physical activity is also being written to support practitioners and parents on the development and implementation of quality programmes.

Further details on this and other developments outlined can be obtained by contacting Susan Crawford on:

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Autism:

- A neuro-developmental disorder characterised by impairments in communication, comprehension and behaviour manifestations (Wing, 2002).
- Spectrum disorder, which also includes deficits in motor development, sensory integration issues and delayed social interaction (Frith, 2003).
- Varying degrees from mild, moderate, severe and profound
- Up to 75% of those diagnosed also have co-occurring learning disabilities (Dewey & Tupper, 2005).
- Research indicates that moderate intensity physical activity delivered at least 3 times per week promotes social interaction, improves motor skills and reduces autistic mannerisms and stereotypical behaviours (Reid & O'Connor, 2003; Crawford, MacDonncha & Smyth, 2007).

Movement ABC (Henderson & Sugden, 1992)

Manual Dexterity: Pegs in a board, threading beads, tracing along a path, joining dots.

Ball Skills: Beanbag to a box, hitting a target on the wall, catching a ball clean with one hand.

Static & Dynamic Balance: Standing on one leg, walking backwards on a line.

Social Responsiveness Scale (Constantino & Gruber, 2005)

Social Awareness

Social Communication

Social Cognition

Social Motivation

Autistic Mannerisms

Pupil Evaluation (Wright & Sugden, 1999)

Physical Component

Intellectual Component

Social Component

Attitude Component

Emotional Component

10-week intervention programme

Analysis: Paired t tests and descriptive

Results: Statistically significant improvements in the areas of movement ability and social responsiveness

Main findings: Intervention needs to be continuous, use of applied behaviour analysis, training of teachers and SNAs essential.

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