The effects of psychomotor therapy in DCD children with or without comorbidities


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Aim: Smits-Engelsman et al.1 meta-analysis of therapies for patients with DCD revealed that traditional therapy, including psychomotor training, have beneficial effects on patients. Their study however did not take into consideration the case of comorbidity.

The aim of this study is to evaluate the effects of comorbidity (SLD, Developmental Dyslexia, ADHD) on the efficiency and choice of techniques within psychomotor training for children with DCD.

Method: We compared the effects of psychomotor training, carried out between 2009 and 2015, in 2 groups of children from the Midi Pyrenees region: DCD children and children at risk of DCD, with (n=21) and without comorbidities (n=9). All children were assessed with the M-ABC (manual dexterity, ball skills, balance and total impairment score) and the BHk writing test (handwriting quality, handwriting speed) before and after psychomotor therapy. The different scores were submitted to ANOVAs (2_Group) x 2_Pre-Post therapy). Qualitative (parts of different therapeutic methods) aspects of the training were also studied. Full Scale Intelligence Quotient (FSIQ) of the Wechsler scales were also examined.

Results: The average duration of psychomotor therapy was the same for both groups (20 months). Significant differences between pre and post therapy were revealed for the M-ABC: Manual dexterity (p<0.001); Ball skills, Balance and Total impairment score (p<0.0001), and for the BHK quality score (p<0.0001) indicating that both groups were improved by psychomotor therapy. No significant group effect nor interaction were found for these scores. Results revealed that DCD children with comorbidity performed worse than those without comorbidity (p<0.0001) on the handwriting speed task. When considering only DCD with (n=16) and without (n=8) comorbidities, the same results were found except for the handwriting speed with no significant effect. No differences were found for the therapeutic methods used between the two groups. Finally, DCD with comorbidity had lower FSIQ than DCD without (p<0.0001).

Discussion: Contrary to our expectations, both groups showed significant improvement after psychomotor therapy, using perceptual-motor training and/or cognitive and metacognitive approaches. The only difference between the two groups is in the FSIQ. At a cognitive level, comorbidity plays a role, but this does not have an adverse impact on the therapeutic process. More studies are needed to confirm these findings.


Keywords: Developmental Coordination Disorder; Comorbidity; Psychomotor therapy.

Driving behaviour and attitudes in young adults with coordination difficulties and Developmental Coordination Disorder

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Aim: The study aimed to assess driving behaviour and attitudes of individuals with coordination difficulties and DCD, investigating whether these individuals reported being more cautious and making more errors while driving than those with typical coordination.

Method: Data were from a longitudinal study of twin pairs and siblings, the ‘Genesis 12-19 (G1219)’ project, when participants were aged 18-32 (N=862). Individuals were grouped based on reports of feeling: very, somewhat, a little, or not at all uncoordinated, and their responses were compared. A group of adults with a diagnosis of DCD are currently in the process of completing the same questionnaires, and these data will also be presented. Driving behaviour was measured using items from the Manchester Driver Behaviour Questionnaire (Lajunen et al., 2004) and relevant attitudes were measured using the Attitudes to Driving Violations Questionnaire (West & Hall, 1997).

Results: Preliminary analyses of the questionnaire data suggest that individuals who reported feeling very uncoordinated reported more lapses during driving compared to those reporting feeling a little and not at all uncoordinated. However, these individuals did not report more errors or violations than the other groups. The very uncoordinated group also tended to be less risky than the not at all uncoordinated group, although not significantly so.

Discussion: These data support previous reports of individuals with poor coordination and DCD having difficulties with driving, and extend current knowledge by highlighting specific problems in terms of lapses, compared to errors or violations. While lapses are likely to represent poor execution of planned behaviour, errors are related to plans that were poorly formed. This, as well as a tendency to less risky attitudes, could help explain why individuals with poor coordination and DCD do not tend to report more accidents despite reporting more difficulties driving. The analyses of the data of adults with a diagnosis of DCD will allow better understanding of these behaviours and attitudes in individuals with clinically-significant levels of motor difficulties. As individuals with Attention Deficit-Hyperactivity Disorder also demonstrate problems with driving, and given the high comorbidity with DCD, it will be useful to compare driving profiles across diagnostic groups and in those with co-occurring disorders in future research.


Keywords: Driving; Lapses; Errors; Coordination; DCD.

Testing a revised cut-point on the Developmental Coordination Disorder Questionnaire-07 to screen for young children at risk for DCD

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Aim: The Developmental Coordination Disorder Questionnaire-07 (DCDQ-07) is currently one of the most widely used tools for screening for DCD in children (Wilson et al., 2007). We previously examined the screening potential of the DCDQ-07 in children between 4 and 6 years,