Physical self perceptions of adolescents with DCD before and after a 13 week exercise intervention

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Introduction:
Adolescents with low motor competence have diminished perceptions of their physical self. Consequently they tend to avoid activities that develop physical fitness and strength. This study of adolescents with Developmental Coordination Disorder (DCD) examined the outcomes of an exercise intervention that focused on improving aerobic fitness, strength, and self-perceptions in the physical domain. We predicted positive changes in fitness as well as perceptions of physical self-worth in sub domains targeted by the intervention.

Methods:
The sample of 35 adolescents with DCD, comprising boys (n = 25) and girls (n = 10) ranging in age from 13 to 17 years, participated in the twice weekly 13 week exercise intervention study (AMP it up). To be included in the intervention, participants needed a score below 1 SD of the mean Neuromuscular Developmental Index (MAND; McCarron, 1997) and/or a history of movement difficulties. Physical self-perceptions were measured before and after the intervention using the Physical Self Perception Profile (PSSP)(Fox & Corbin, 1990) comprising five 6 item subscales. Four of these (sports competence (SC), physical conditioning (PC), attractiveness of body (AB), and physical strength (PS)) assess perceptions within specific sub domains. A fifth subscale measures global physical self-worth (PSW), that reflects feelings of satisfaction with the physical self. Participants also completed the Perceived Importance Profile which consists of four 2 item subscales that measure level of importance attached to each domain of PSW.

Results
AB and PS sub domain scores were the best predictors of PSW at pre-test (F=22.915, p <.001), joined by PC at post test (F=22.78, p<.001). Significant improvements in PC (p =.012) and PS (p =.049) sub domain scores were identified between pre and post test. Adolescents ranked PC and AB as most important at pre test, but these changed to PS followed by PC at post test.

Conclusion
The observed improvements in specific subdomains of physical self-worth were directly related to the focus of the intervention. That is participants showed increases in perceptions of physical condition (PC), and physical strength (PS) as well as actual improvements in fitness and strength. This is consistent with the view that changes in specific aspects of PSW can be facilitated by interventions that focus on related areas of fitness, and that these can occur after a relatively short period of time. These results highlight the importance of appropriate programs for adolescents with DCD when positive attitudes towards exercise are encouraged.