

S05-1: The Role of Movement in Early Childhood: Embodied Cognition Models Can Explain Intraindividual Variability in Motor Competence and Executive Functioning as School Readiness Skills

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Purpose: Early childhood is a time of tremendous growth and development, with the young body and mind changing at an unprecedented rate. It is no wonder that the relationship between motor competence (MC) and executive functioning (EF) during child development is complex, with many child and environmental factors having confounding and moderating effects. The Dutch MELLE follow-up study was grounded on embodied cognition theories suggesting that the mind-body relationship is shaped by the changing physical body features and embedded in the unique experiences within the environment. Therefore, a person-centred approach was applied to explore how functioning in diverse developmental domains jointly affects children's developmental outcomes.

Methods: In one of the MELLE sub-studies, we examined school readiness of a sample of children (n = 91) with a mean age of 3 years and 4 months (46% girls). We administered a multi-informant test battery of MC, EF, language/emergent literacy skills (LEL), and socioemotional behaviour. After the first six months of school, we collected academic and non-academic school outcomes (EF, MC, socioemotional functioning, classroom behaviour, and creative thinking).

Results: A latent profile analysis revealed four distinct profiles. Motor skills were distinguished between profiles, but not performance-based EF or language scores. School readiness profiles differed in the mean scores on the first grade academic achievement, parent- and teacher-rated EF, MC, parent-rated socioemotional functioning, and prerequisite learning skills.

Conclusions: The patterns of differences were complex, suggesting that profiles could not be ranked from low to high in terms of school outcomes. It could be that children develop in one or only a few school readiness skills at once at the expense of other skills. A major strength of the study was the longitudinal design and inclusion of MC as part of school readiness profiles. Our findings posit motor skills as a distinguishing feature between school readiness profiles, and also that relatively strong motor skills can act as long-term compensation for less developed skills. Therefore, the results support the increasing attention to gross and fine motor skills in school readiness assessment policies. We recommend a person-centred approach and incorporating MC when assessing a child's school readiness.

