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**CHILDHOOD MOTOR DEVELOPMENT AND LEISURE-TIME PHYSICAL ACTIVITY IN
YOUNG ADULTHOOD: A DISCORDANT TWIN-PAIR ANALYSIS**

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Objectives:

High motor proficiency in early life seems to predict higher levels of physical activity in later life, but whether the association is independent of familial background is unknown. The aim of the study was to compare co-twins discordant for their childhood motor development. We examined whether parental reports of within-pair differences in age at standing and walking unaided during infancy predicts within-pair differences in leisure-time physical activity levels in young adulthood.

Methods:

The twin pairs were from the longitudinal FinnTwin12 study. Only monozygotic and same-sex dizygotic twin pairs were included. Twins with childhood chronic diseases were excluded. Motor developmental differences in infancy were reported by the parents when the twins were 12 years of age. Leisure-time physical activity in young adulthood was based on questionnaire data, and the activity level was assessed as MET hours/day. Altogether, 81 twin pairs discordant for the development of unaided standing and 186 twin pairs discordant for the development of unaided walking were compared. Paired t-tests were used to test for differences between co-twins.

Results:

The co-twins reported to stand unaided first were more physically active in their leisure-time in young adulthood (co-twins ahead 6.89 MET hours/day (95% CI 5.23–8.51), co-twins behind 5.03 MET hours/day (95% CI 3.99–6.07), $p=0.02$). In addition, the early development of unaided walking was also associated with the likelihood of being more physically active in leisure-time in young adulthood (co-twins ahead 7.64 MET hours/day (95% CI 6.30–8.98), co-twins behind 6.26 MET hours/day (95% CI 5.17–7.35), $p=0.03$).

Conclusions:

The findings suggest that, even when sex and familial factors are adjusted for, better motor proficiency in childhood predicts higher leisure-time physical activity levels in young adulthood.