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Trajectories of Leisure-Time Physical Activity and Their Associations With Subjective Cognitive Decline

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Purpose: This study investigates trajectories of leisure-time physical activity (LTPA) among ageing people and how these trajectories are associated with subjective cognitive decline. Furthermore, the study seeks to explore whether these trajectories vary by occupational class.

Methods: We utilised survey data from the Helsinki Health Study, a longitudinal cohort (n = 8,960, 80% women) of employees of the City of Helsinki (2000–2022). LTPA was quantified as weekly metabolic equivalent hours (MET-h). LTPA change (2000–2022) was categorised as repeated high (63%), increasing (low -> high) (13%), decreasing (high -> low) (14%), and repeated low (10%). The cut-off for low (<14 MET-h/week) was based on recommended levels of physical activity. Subjective cognitive decline in 2022 was assessed via three validated questions on memory, learning ability, and concentration, classified as 'declined' (31%, 48%, 31%, respectively) or 'good' (69%, 52%, 69%, respectively). Occupational class (2000–2002) was categorised as 'low' (routine non-manual and manual employees) or 'high' (managers, professionals, and semi-professionals).
Logistic regression analysis was used to estimate odds ratio (OR) and their 95% confidence interval (CI).

Results: Compared to repeated high LTPA group, especially repeated low LTPA (memory: OR = 1.64; 95% CI: 1.35–1.97; learning: OR = 1.79; 95% CI: 1.49–2.16; concentration: OR = 1.93; 95% CI: 1.60–2.32) and a decline from high to low LTPA (memory: OR = 1.72; 95% CI: 1.46–2.03; learning: OR = 1.65; 95% CI: 1.41–1.94; concentration: OR = 2.16; 95% CI: 1.84–2.53) were associated with subjective cognitive decline. A decrease in LTPA was strongly associated with impaired learning ability among participants in low (OR = 1.91) versus high (OR = 1.31) occupational class (interaction p = 0.0199).

Conclusion: Especially individuals with repeatedly low or decreasing levels of LTPA may require further attention and targeted interventions, particularly those focused on enhancing preventive strategies, such as physical activity, to promote overall health and wellbeing and maintenance of memory, learning, and concentration in older age.

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