

Socioeconomic inequalities in cognitive performance among early ageing people: The Constances cohort

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Background:

In spite of the recent awareness of environmental characteristics' impact on brain aging, links between contextual socioeconomic status and cognitive performance (CP) remains unclear. The objective was to investigate the influence of individual and contextual deprivation on cognitive performance in order to better characterize vulnerable population.

Methods:

We performed cross-sectional analyses on 44,762 participants (45-70 y) of the French Constances cohort. Cognitive performance was assessed using a global cognitive score calculated with 6 cognitive tests evaluating global cognitive function, episodic verbal memory, language abilities, and executive functions. Poor performance was defined as a score below or equal to the 25th percentile of the distribution. We approached the deprivation by two validated multidimensional index: at individual level with the EPICES score (deprived if < 30.17) and contextual level with the FDep09 score divided in quintile (Q5 being the most deprived). Associations were estimated with multilevel logistic regressions.

Results:

At the individual level, participants more deprived had poorer CP independently to sex, age, education and health status (OR 1.58 [1.48; 1.69]). At the contextual level, the more people lived in deprived environment, the poorer their CP ($p < .0001$), even after adjustment on individual deprivation and other individual characteristics (Q5 vs Q1: OR 1.28 [1.15; 1.41]).

Conclusions:

In this large cohort of early-ageing people, area-based disparities in cognitive impairment were highlighted. A better understanding of the influence of living environment deprivation level on cognitive aging could help to define new strategies in prevention by targeting at-risk populations in

interventions studies in order to reduce social health inequalities.

Key messages:

- Our study evidenced a strong socio-economic gradient of cognitive performance identifiable on both individual and contextual level, in a large sample of middle-aged volunteers.
- Independently to individual deprivation and other individual characteristics, living in a deprived environment may be detrimental to the brain health.