



Biological Pathways Linking Education
To Dementia In Latin America:
Multiple mediation analysis of epigenetic clocks and health behavior

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Study design

506 participants
REDLAT cohort · 7 sites
Sociodemographic, cognitive and epigenetic data

Chile · Argentina · Perú · Brazil · Colombia · México · USA

Variables description

X

Education + quality
formal education + educational quality

M

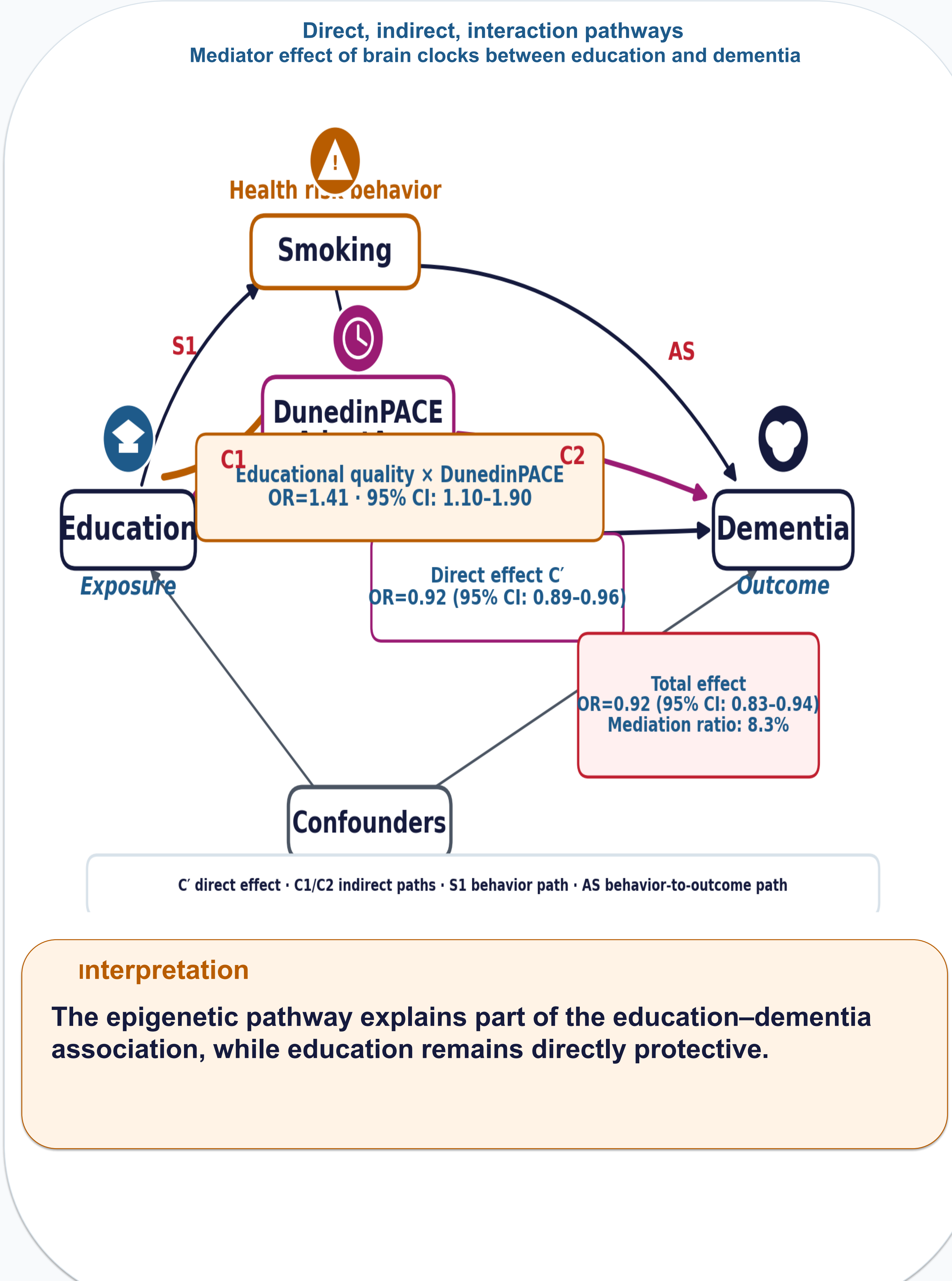
Brain clocks + behavior
DunedinPACE, AdaptAge, health styles

Y

Dementia
AD or FTD

Analysis plan

GEE models · multiple mediation · interaction model



Results

Education
OR 0.9207; 95% CI 0.8871–0.9556
p < 0.001

DunedinPACE
OR 1.1876; 95% CI 1.0397–1.3565
p = 0.0113

DP × quality
OR 1.3335; 95% CI 1.0753–1.6537
p = 0.0088

Effect decomposition

11% Site-level variability

8.3% Indirect effect via DunedinPACE + AdaptAge

Take-home message

Educational quality moderates the impact of epigenetic ageing on dementia risk.
Pathway evidence supports biological embedding of educational inequality.