Resistance to cognitive decline from neuropathology is postulated to occur due to cognitive reserve (CR). We examined whether baseline regional cortical thickness and rate of regional atrophy are structural markers for CR. We hypothesized that higher education, a proxy for CR, would be related to greater cortical thickness in areas related to literacy or intellectual ability in healthy controls and individuals with mild cognitive impairment (MCI) from the Alzheimer's Disease Neuroimaging Initiative. Cortical thickness in these regions was compared between high (>18 yrs) and low education (<13 yrs) subgroups among controls and MCI individuals separately. Unexpectedly, high education was related to thinner cortices at baseline for controls in lateral occipital and temporal regions and for MCI in the left inferior parietal region after controlling for age and sex. In MCI, the difference in cortical thickness persisted after controlling for disease severity. Pre-existing thinner cortex in the high education group was not associated with a higher atrophy rate than that observed in the low education group. Cortical thickness in areas related to intellectual ability or literacy therefore may not be a persistent marker of CR.

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