



Changes in Personality Traits Are Unlikely in the Preclinical Phase of Dementia

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Brandon May



For patients in the preclinical phase of dementia, personality changes are not a common occurrence prior to the onset of Alzheimer's disease (AD) or mild cognitive impairment (MCI), according to a new study published in *JAMA Psychiatry*.

"We did not find change in personality in the preclinical phase of Alzheimer's disease," lead investigator Antonio Terracciano, PhD, a guest researcher at the National Institute on Aging at the National Institutes of Health and associate professor, Department of Geriatrics, Florida State University College of Medicine in Tallahassee, Fla., told *MD Magazine*. "We examined data that spanned up to 36 years, and we did not see particular patterns of personality change in the people who later developed Alzheimer's disease."



Antonio Terracciano, PhD

The investigators of this study enrolled 2046 community-dwelling adults from the Baltimore Longitudinal Study of Aging with an average age of 62.56 years at baseline. Participants with no cognitive impairment at the first study assessment were followed from 1980–2016.

During this time, participants completed the 240-item Revised NEO Personality Inventory (NEO-PI-R) self-reported questionnaire for assessment of agreeableness, conscientiousness, extraversion, neuroticism and openness, among other personality facets.

A total of 104 (5.1%) patients were diagnosed with MCI during 24,569 person-years, with all-cause dementia and Alzheimer's disease being diagnosed in 255 (12.5%) and 194 (9.5%) participants, respectively.

Researchers noted small declines in extraversion, neuroticism and openness as well as increases in both agreeableness and conscientiousness among non-impaired individuals.

Participants with dementia scored significantly lower on conscientiousness ($\beta = -3.34$; 95% CI, -4.93 to -1.75 ; $P < .001$) and extraversion ($\beta = -1.74$; 95% CI, -3.23 to -0.25 ; $P = .02$) and higher on neuroticism ($\beta = 2.83$; 95% CI, 1.44 to 4.22 ; $P < .001$).

No significant differences were found between the non-impaired participants and the AD group in regard to change in personality prior to dementia or MCI onset (eg, neuroticism: $\beta = 0.00$; 95% CI, -0.08 to 0.08 ; $P = .91$; conscientiousness: $\beta = -0.06$; 95% CI, -0.16 to 0.04 ; $P = .24$).

Additionally, similar slopes were found among participants who developed MCI and all-cause dementia compared with non-impaired individuals (eg, neuroticism: $\beta = 0.00$; 95% CI, -0.12 to 0.12 ; $P = .98$; conscientiousness: $\beta = -0.09$; 95% CI, -0.23 to 0.05 ; $P = .18$).

"While we did not see specific changes over time," Terracciano commented, "those who scored high on neuroticism or low on conscientiousness were more likely to develop AD."

"Thus, the personality changes commonly reported for people with AD (for example apathy, irritability, agitation) seem to begin with the onset of the disease, along with and not before other symptoms," Terracciano added.

According to Terracciano et al, these findings run in the opposite direction of the reverse causality hypothesis.

"From a clinical perspective, these findings suggest that tracking change in self-rated personality as an early indicator of dementia is unlikely to be fruitful," added the investigators, "while a single assessment provides reliable information on the personality traits that increase resilience (eg, conscientiousness) or vulnerability (eg, neuroticism) to clinical dementia."

Terracciano concluded that one of the most important takeaways from this study "is that stable personality tendencies, but not changes in such traits, are risk factors for Alzheimer's disease."

REFERENCE

Terracciano A, An Y, Sutin AR, Thambisetty M, Resnick SM. Personality Change in the Preclinical Phase of Alzheimer Disease. *JAMA Psychiatry*. 2017;74(12):1259-1265.