

The personality traits associated with Alzheimer's Disease: a meta-analysis

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Introduction

Personality is defined as a set of psychological qualities contributing to distinctive types of feelings, ways of thinking and behaviours (Cervone & Pervin, 2010). Personality changes may reflect structural and functional alterations produced by the progressive neurodegenerative processes occurring in neurological diseases such as in Alzheimer's disease (AD). It is noteworthy to underline that whereas the role of specific personality traits as factor risks of AD has been consistently found, a personality profile specifically related to AD (after the diagnosis) has not been outlined yet. Several studies have explored personality profile of AD patients compared to healthy subjects (HC), and found more consistent results for neuroticism and mixed findings for the Extraversion, Agreeableness, Conscientiousness and Openness. Therefore, in our study, we conducted a meta-analysis to determine whether patients with a clinical diagnosis of AD have a distinctive personality trait profile compared to healthy subjects.

Material and Methods

A meta-analysis of 10 studies was performed. Studies were included in the meta-analysis if they met the following criteria: (1) were published in peer-reviewed journals in English; (2) were published from 1960 to March 2017; (3) compared AD patients to HC on personality traits related to the Five Factors Models (FFM) (McCrae and John, 1992); (4) reported statistical results about comparisons on personality traits measures between AD and HC. The outcomes were the five personality traits of the FFM (i.e. Neuroticism, Extraversion, Agreeableness, Conscientiousness, Openness). We computed the effect sizes from data reported in the primary studies (e.g., means and standard deviations) using Hedges'g unbiased approach. Negative values of the Hedges'g indicated that AD patients had lower scores than HCs on each personality dimension. Heterogeneity among the studies was assessed using Q and I² statistics index. A significant Q value indicates a lack of homogeneity of findings among studies; the proportion of observed variance that reflects real differences in effect sizes was estimated by I². Moreover, we conducted sensitivity analyses to check the stability of study findings.

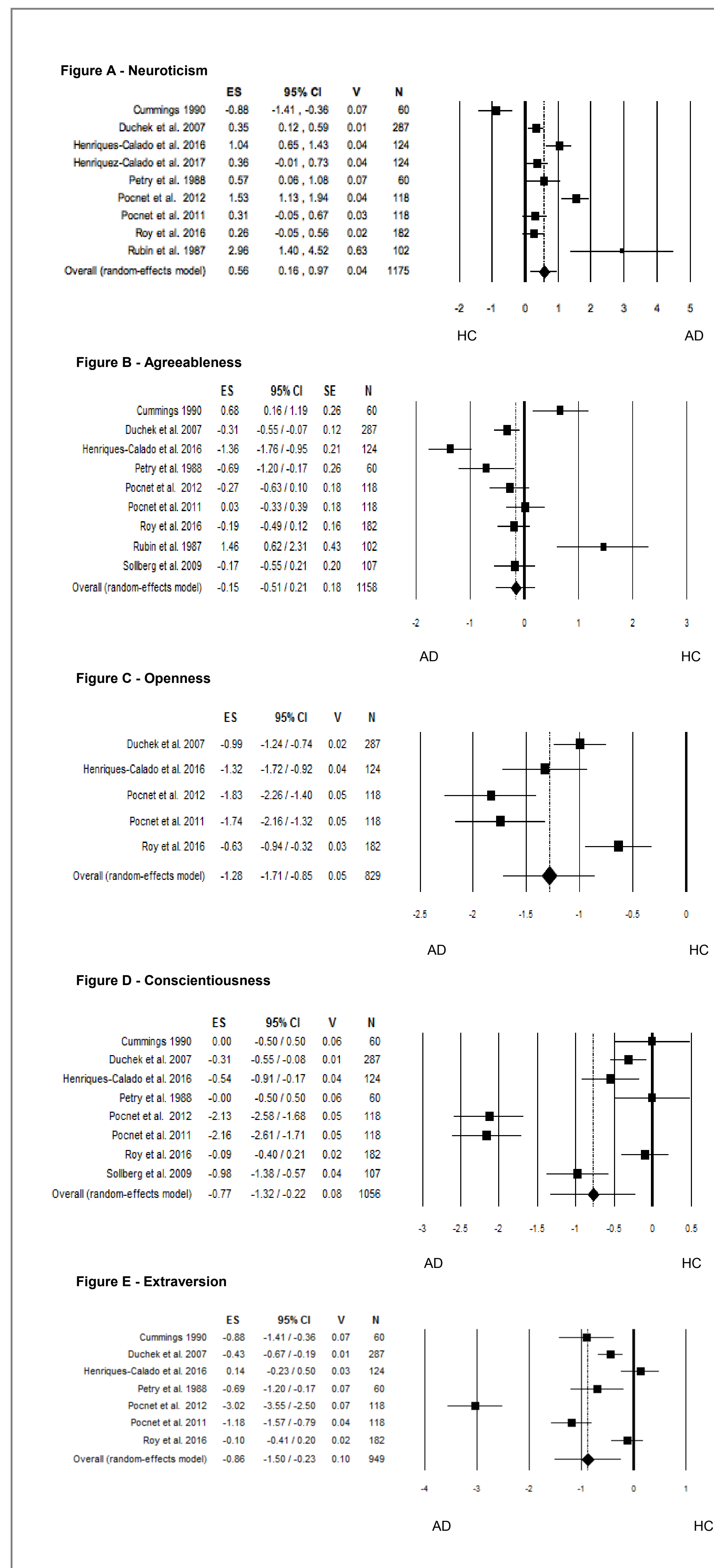
To further explain heterogeneity across study findings, we conducted meta-regression with 5 moderators (i.e., age at evaluation, gender, years of schooling, severity of the dementia assessed by the Clinical Dementia Rating Scale, tools assessing personality traits).

Results

The AD patients scored higher on Neuroticism (Effect size: 0.56) (Figure A), lower on Openness (Effect size: -1.28) (Figure C), Conscientiousness (Effect size: -0.86) (Figure D) and Extraversion (Effect size: -0.77) (Figure E) than HC. No significant difference was found between the two groups on Agreeableness trait (Figure B). The meta-regression did not show any significant effect of demographic aspects and type tools on the effect size for all outcomes.

Conclusions

In conclusion, the present meta-analysis revealed a distinctive personality profile in AD patients characterized by high levels of Neuroticism, low level of Conscientiousness and Openness to experiences; this profile is very similar to a pre-morbid personality found to be significantly associated with the development of AD over time. Our findings might have clinical implication: the early evaluation of the personality in demented patients might provide interventions better matched to the individual's personality in order to improve acceptability, adherence, and effectiveness of interventions (Kolanowski et al., 2011).



Bibliografia

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