

Does personality predict Behavioral and Psychological Symptoms of dementia? Results from PACO prospective study.

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Introduction and aim

- Behavioral and psychological symptoms (BPS) are core manifestations of Alzheimer's disease (AD).
- Among these factors, premorbid personality seems to play an important role.
- Previous studies focusing on the link between personality and BPS were retrospective and based on a weak number of heterogeneous patients with dementia.
- **The aim of PACO* study is to prospectively investigate the links between personality dimension and BPS in prodromal and mild AD.**

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Methods

Population:

- Multicenter prospective study including **237 patients** from 10 French memory clinics with **AD** at prodromal or mild dementia stage.

Study variables:

- **Personality** was assessed at baseline with NEO PI-R inventory, a 240-item questionnaire identifying 5 personality traits according to the Big Five Model (Neuroticism, Openness, Conscientiousness, Agreeableness and Extraversion).
- **BPS** were assessed with **NPI-R**, a short-form of the NPI measuring the frequency and intensity of the symptoms. Its total score ranges from **0 to 36**.
- NPI-R was measured at baseline, and at 6, 12 and 18-month follow-up.

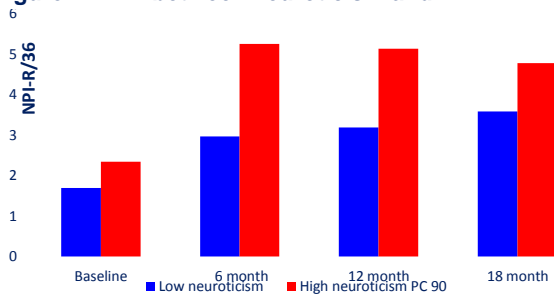
Statistical analysis:

- A Principal Component Analysis including NPI-R subscores was designed to identify factor scores
- The association between personality domains and BPS evolution assessed with **mixed linear models** adjusted for age, gender, education and baseline MMSE

Results

The PCA identified a 5-factor solution including psychotic, affective, behavioral dyscontrol, apathy and sleep disorders

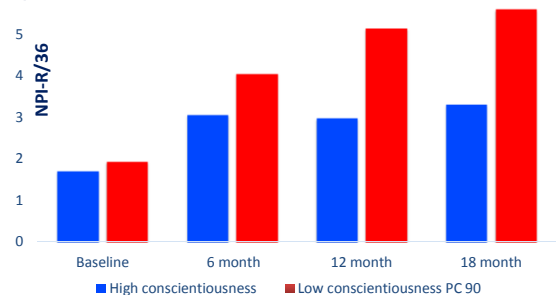
Figure 1- Link between neuroticism and NPI-R



➤ **Higher neuroticism** was related to **higher global NPI-R scores** ($p < 0.0001$)

➤ Higher neuroticism was significantly associated with a higher score on **affective** ($p < 0.0001$), **apathy** ($p = 0.002$), **sleep disorders** ($p = 0.001$) factor scores

Figure 2- Link between conscientiousness and NPI-R



➤ **Higher conscientiousness** was related to **lower global NPI-R scores** ($p < 0.0001$)

➤ Higher conscientiousness was related to a lower score on **psychosis** ($p = 0.002$), **affective** ($p = 0.02$) and **apathy** ($p = 0.02$) subscores

- Higher openness was associated with lower affective score ($p = 0.01$).
- Higher extraversion was associated with lower affective ($p = 0.02$) and higher behavioral dyscontrol scores ($p = 0.04$).
- Higher agreeableness was linked to a lower psychosis score ($p = 0.05$).

Conclusion

- The present analysis suggests that higher neuroticism could increase the risk of BDSP over time.
- Conversely, higher openness, conscientiousness, extraversion and agreeableness could be linked to a decreased risk of BPSD occurrence.
- Given these results, personality should be evaluated further to better identify patients at risk of developing BPSD during AD, to treat these disorders and limit their consequences for both patients and caregivers.