

# Personalità e Cognizione nell'invecchiamento: indagine attraverso metriche di Graph Theory

*Tuesday, September 24, 2024 9:30 AM (20 minutes)*

Historically, aging has been associated with personality impoverishment and cognitive decline. The dedifferentiation hypothesis of cognitive aging suggests that the structure of individuals' cognitive abilities becomes less differentiated in old age. Critically, however, only a few studies considered the changes occurring in personality, cognition, and in their relationship with aging.

This project aimed to investigate this phenomenon by examining the structural characteristics of personality and cognition in different age groups (Young: 18-36; Adults: 36-59; Elderly: 60-100) and their associations. To do so, we analyzed the data of 1630 participants from the Human Connectome Project (HCP), employing a network analysis perspective through Explorative Graph Analysis (EGA) and Network Comparison Test (NCT) to investigate the relationships between cognitive tests and personality indexes in different stages of life.

Compared to Young participants, Adults showed stability in the number of domains identified with EGA (6 domains: High Cognition, Low Cognition, Mental Health, Externalizing Problems, Pain perception), whereas Elderly participants presented a tendency of the network to de-differentiate, as two pairs of nodes (High and Low Cognition; Mental Health and Pain Perception) merged together (Cognition and Health, respectively) resulting in a 4-domains network. The NCT confirmed that the latter network significantly differed from the Young and Adults ones.

Altogether, these findings indicate that the structure of personality and cognition truly changes with aging. However, rather than a mere decline, these alterations can be considered a re-arrangement to optimize available resources and efficiently face the new challenges occurring at older ages.

**If you're submitting a poster, would you be interested in giving a blitz talk?**

**If you're submitting a symposium talk, what's the symposium title?**

I cambiamenti dell'architettura cognitiva e della struttura di personalità: gli effetti dell' invecchiamento e del ritiro sociale

**If you're submitting a symposium, or a talk that is part of a symposium, is this a junior symposium?**

No

**Primary author:** VICENTIN, Stefano (Università di Padova)

**Co-author:** Prof. CONA, Giorgia (Università di Padova)

**Presenter:** VICENTIN, Stefano (Università di Padova)

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