

Cognitive Behaviors in Daily Life of Older Adults: Is there a Link to Personality-Related Behaviors?



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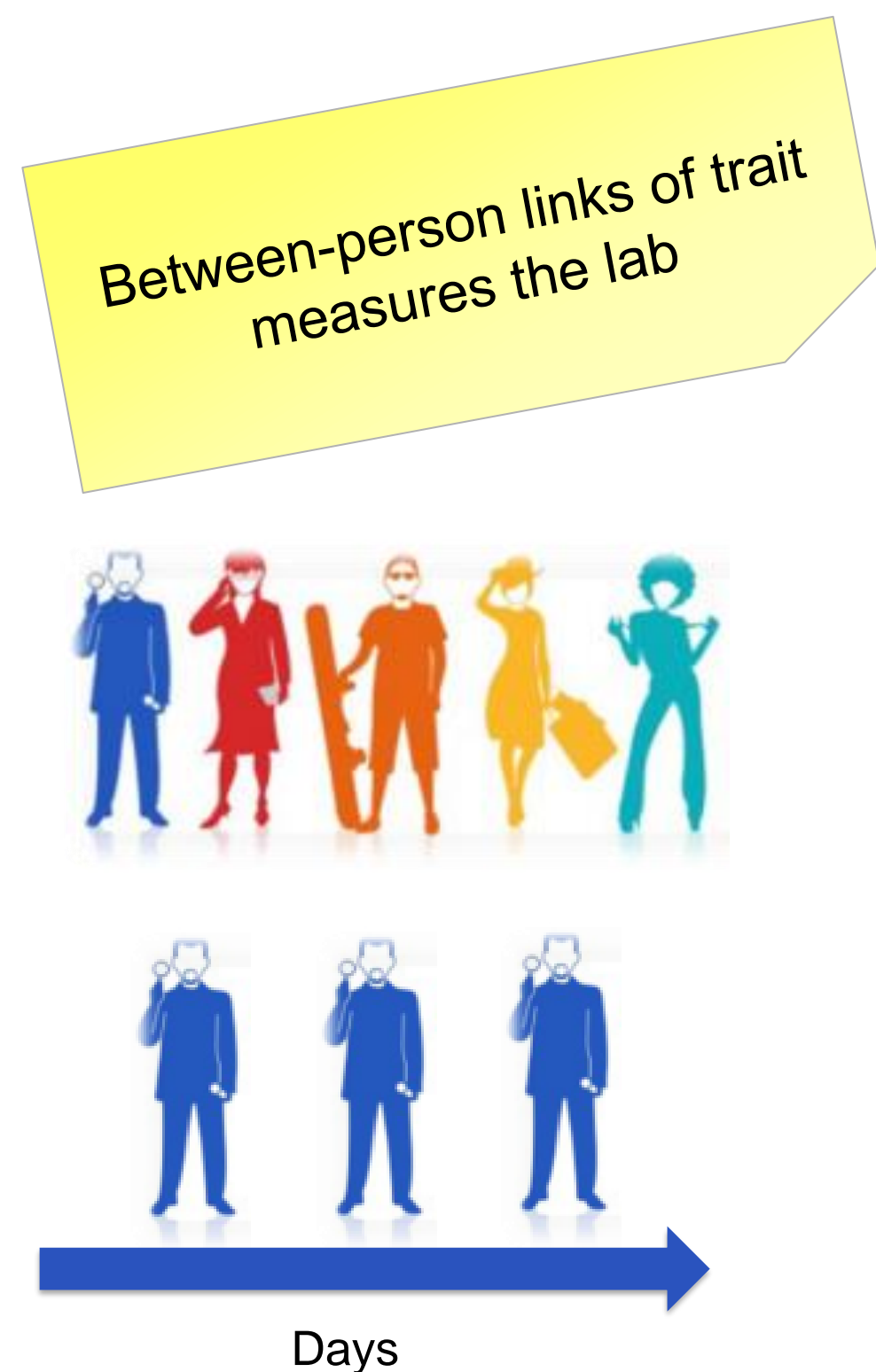
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What we know

- Openness and cognitive engagement around $r = .44-.70$: Open individuals engage more in intellectual activities.¹
- Neuroticism and cognitive complaints around $r = .49$: Neurotic individuals make more negative judgments about their cognition.²

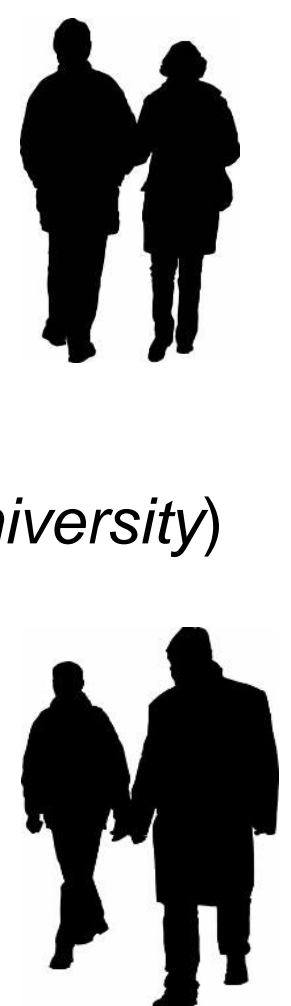
What we need to know

- Daily between-person level: Do individuals differ in their daily levels of open behaviors and cognitive engagement as well as neurotic behaviors and cognitive complaints?
- Within-person level: On days when individuals behave more openly, are they more engaged in cognitive activities? On days when individuals report more neurotic behaviors, do they also report more cognitive complaints?



Sample

- RHYTHM (Realizing Healthy Years Through Health Maintenance)
- $N = 136$, 41.2% male
- Mean age: 70.45 years, $SD = 6.27$, range: 60-91 years
- Mean education: 4.64, $SD = 1.53$, range: 0-7 (0 = no education, 7 = university)
- Mean subjective health: 1.32, $SD = 0.34$ (1 = excellent, 6 = very poor)
- Mini Mental State Examination (MMSE) scores > 24
- General Depression Scale (GDS) scores > 18



Procedure



Measures

	TRAITS	BEHAVIORS
PERSONALITY COGNITION	GENERAL AND TYPICAL RATINGS	ACTUAL BEHAVIORS ON A DAILY BASIS
TIME REFERENCE	lately, compared to earlier, in the last 12 months...	today

Personality-related behaviors

- 10 open and 10 neurotic behaviors
- Daily Behavior Checklist: yes/no

Today, I listened with interest to someone whose values or beliefs differed from mine.

Cognitive behaviors

- 9 items of daily cognitive engagement (adapted from the Typical Cognitive Engagement questionnaire)
- 4 items of daily cognitive complaints (adapted from the Nuremberg Self-Assessment List)

Today, I acted moody.

Today, I watched an educational or documentation movie.

Statistical analysis

- Multilevel modeling (Mplus 8)
- Conditional random-intercept-random-slope models and cross-level interactions
- Covariates: age, education, MMSE, time, trait personality

Today, I misplaced or lost an object (e.g., keys, glasses).

Open behaviors and cognitive engagement

- ✓ Positive between-person association: $\mu_\beta = 0.42$, $SD = 0.06$, $p < .001$, 95% CI [0.289, 0.513]
In line with between-person findings of trait measures conducted in the lab¹

- ✓ Positive within-person association: $\mu_\beta = 0.16$, $SD = 0.03$, $p < .001$, 95% CI [0.103, 0.203]

On days when participants behaved more openly, they were more engaged in cognitive activities or on days when they behaved less openly, they reported lower cognitive engagement.

- ✓ Age = moderator: $\mu_\beta = -0.31$, $SD = 0.14$, $p < .01$, 95% CI [-0.594, -0.048]
→ stronger effect for young-old adults (< 70.45 years)

- Young-old = more opportunities to behave openly and to show more cognitive investment in their daily life (e.g., larger social network)?
- Old-old = more age-related issues (e.g., lower MMSE scores) that limit the adoption of open behaviors?

Neurotic behaviors and cognitive complaints

- ✓ No significant between-person association: $\mu_\beta = 0.11$, $SD = 0.07$, $p = .062$, 95% CI [-0.036, 0.236]

Contrary to between-person findings of trait measures conducted in the lab³

- ✓ No significant within-person association: $\mu_\beta = 0.03$, $SD = 0.02$, $p = .149$, 95% CI [-0.025, 0.069]

On days when older adults reported more neurotic behaviors, they did not systematically report more cognitive complaints.

- ✓ No cross-level interactions

Lab vs. real life

Healthy sample

Conclusion

Positive association between open behaviors and cognitive engagement, no association between neurotic behaviors and cognitive complaints.

Future work should test whether a simple intervention aimed at promoting open behaviors may increase cognitive engagement.

References

- ¹Soubelet, A., & Salthouse, T. A. (2010). The role of activity engagement in the relations between openness/intellect and cognition. *Personality and Individual Differences*, 49, 896-901.
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