

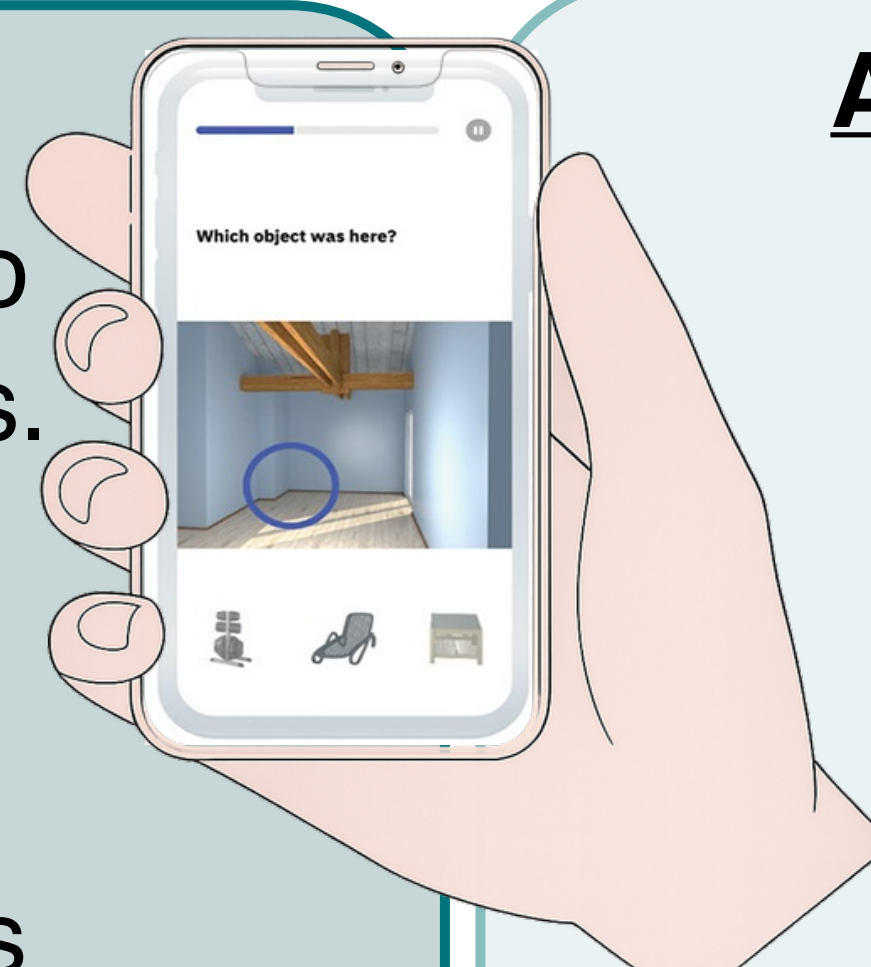
Sleep duration and mental well-being are associated with delayed memory in a 12-week digital and remote community-sample study

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Background

- Remote unsupervised digital memory tests are increasingly used to detect **early Alzheimer's disease (AD)** and recruit for clinical trials.
- However, performance may be influenced by internal and external factors.
- Delayed memory** is among the first functions affected in AD. Yet how **sleep and mental well-being** affect it in naturalistic settings is unknown.



Methods

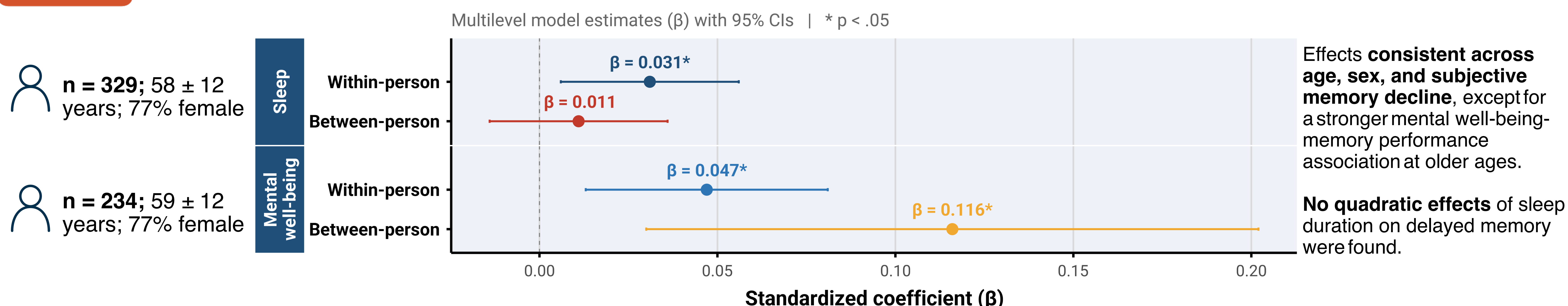
A Citizen Science Study*

- Weekly digital memory test:** Object-in-Room Recall (ORR) via *neotivTrials* for **12 weeks**
- Weekly sleep survey:** wake and bedtime reported the morning of testing
- Mental well-being survey:** WHO-5: happiness, calmness, energy, freshness, interest⁺
- Multilevel linear mixed models:** within- and between-person effects; age, sex, subjective memory decline as moderators



Examine within- and between-person effects of sleep duration and mental well-being on associative delayed memory performance

Results

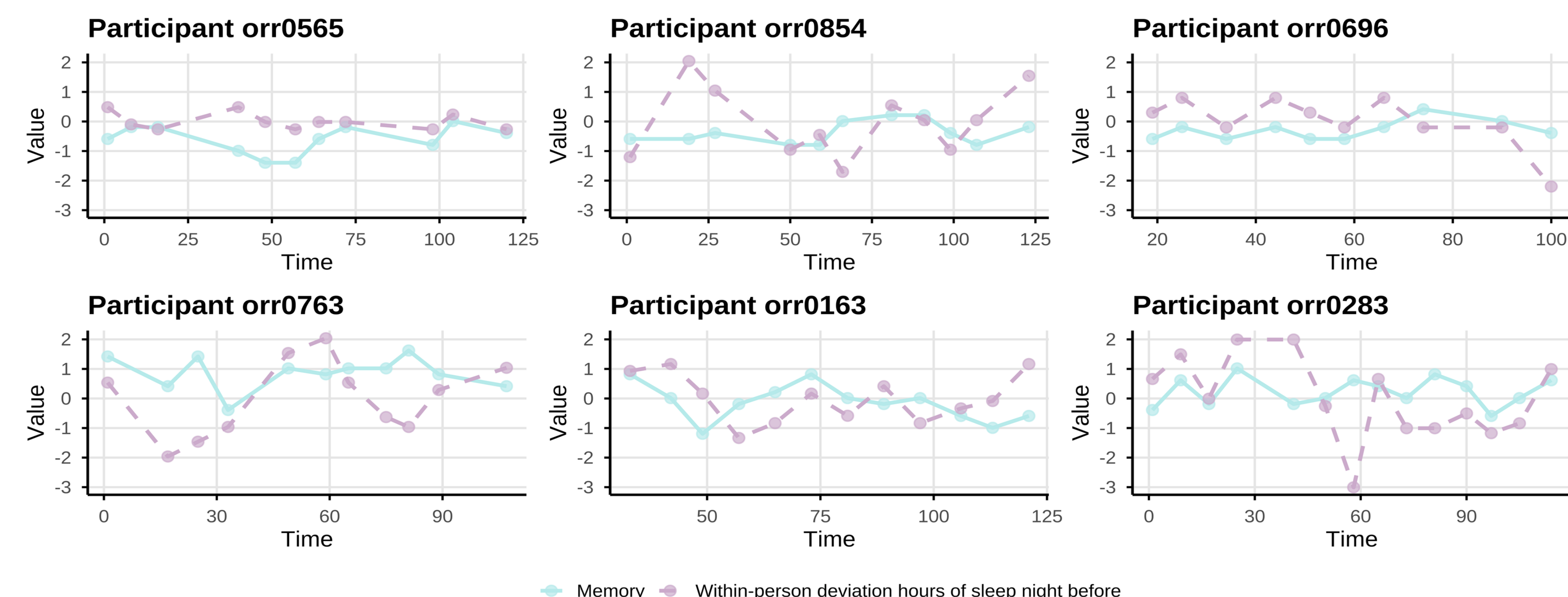


n = 329; 58 ± 12 years; 77% female

Sleep

n = 234; 59 ± 12 years; 77% female

Mental well-being



Conclusion

- Better associative delayed memory was predicted by:
1. Sleeping **more than one's own average** the night before.
 2. Having higher levels of mental well-being, both compared to **one's self** and to the **group average**.

Sleep and mental well-being should be taken into consideration when interpreting delayed associative memory tests performed remotely.