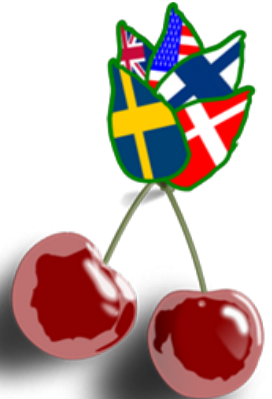


# Remember This: Harmonization of Episodic Memory Measures across Twin Studies of Aging



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# Motivation for the project



- **Swedish Twin Studies** (GENDER, SATSA, HARMONY, SALZA): CERAD word List with 10 unrelated words, 3 learning trials, 10 minute delayed recall
- **Danish Twin Studies** (LSADT, MADT, MiDT): word list with 12 unrelated words, 1 learning trial, repeat list after trial, ~10 minute delayed recall
- **OATS** (Australia): RAVLT word list with 15 unrelated words, 5 learning trials, interference list before ~20 minute delayed recall
- **MIDUS twins** (US): RAVLT word list with 15 unrelated words, 1 learning trial, ~15 minute delayed recall, by telephone
- **VETSA** (US): CVLT word list with 16 words in 4 categories, 5 learning trials, interference list before ~20 minute delayed recall
- **Carolina African American Twin Study** (US): TICSm word list with 10 unrelated words, 1 learning trial, no delayed recall
- **NAS-NRC Twin Registry** (US): TICSm word list with 10 unrelated words, 1 learning trial, several minutes delayed recall, by telephone



# Sample and Methods

Sample:  $N = 37,808$  (11,995 complete twin pairs)

Mean age: 63.6 (SD= 10.4, 95% between 45 and 80)

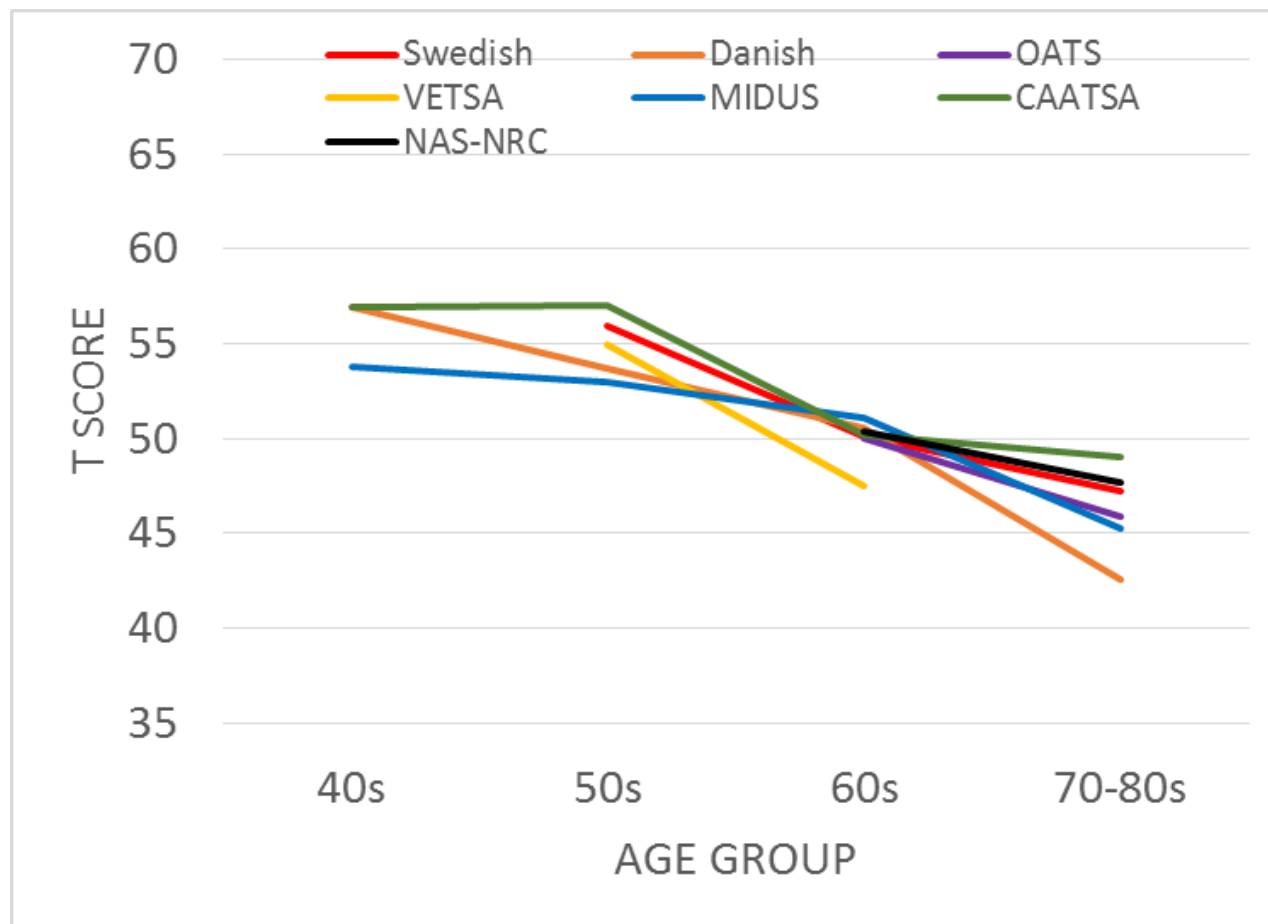
## Score harmonization:

- Immediate recall after first learning trial
- First occasion that participant took word list test
- From raw scores, calculated % words correctly recalled
- Within each IGEMS study, created T score standardized to mean=50, SD=10 for non-cognitively impaired individuals aged 65 – 69.9
- Applied this T score formula to all individuals in the respective study at all waves.



# Results

- Phenotypically, in the cross-sectional sample, episodic memory was worse at older ages.

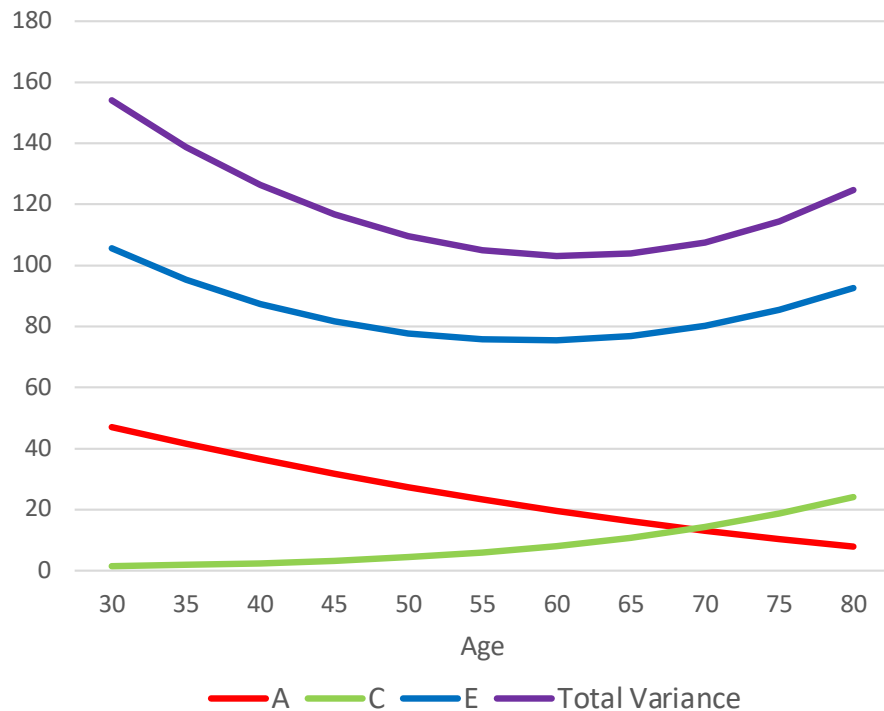


# Results

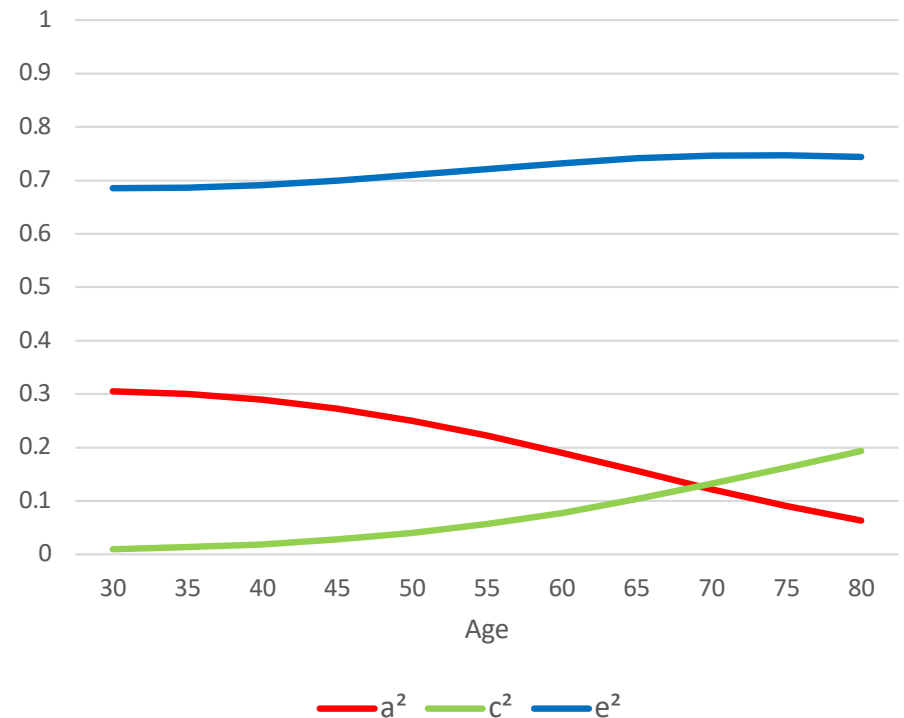
- Twin models indicated modest heritability, with some indication of age moderation, such that heritability was lower at older ages.



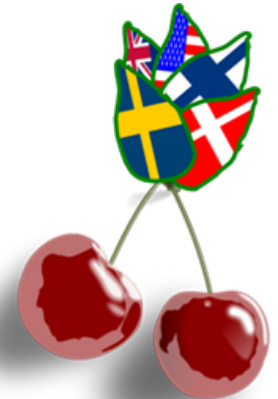
### Unstandardized variance



### Standardized estimates



# Conclusion



- Harmonized measure of episodic memory now available
- Results compare to Pahlen et al. *Intelligence* 68 (2018), 70-81, for other cognitive domains



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