

Computer-Based Measures of Attentional Function in Ageing and Dementia

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Research Team

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Outline of Presentation...

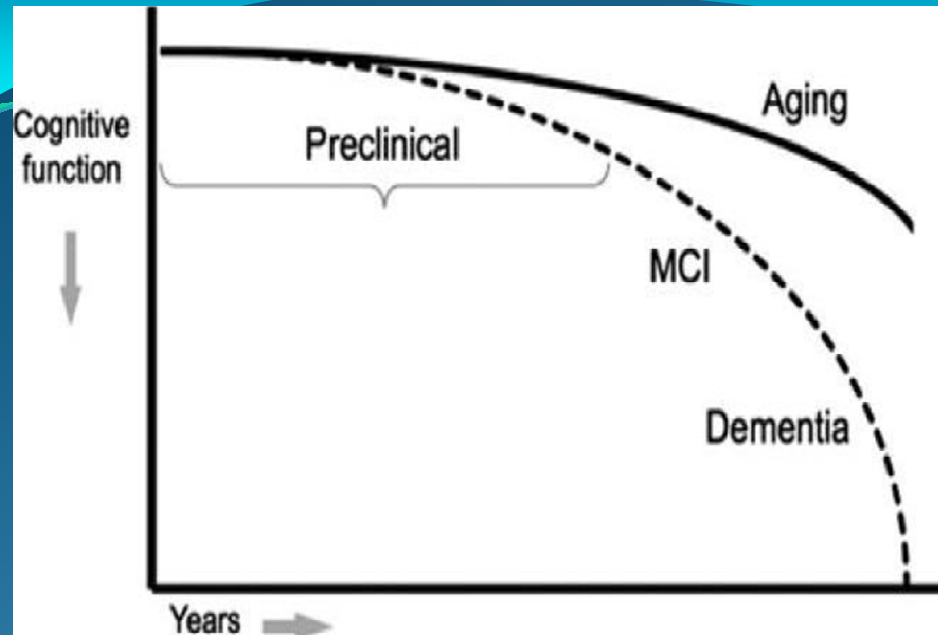
- Introduction to research area of Alzheimer's and Subjective Cognitive Decline (SCD)
- Study aim, objective, method
- Results
- Conclusions & next steps

Alzheimer's Disease

- Main cause of dementia...approximately 70%
- AD affects approx. 5% >65 years, 20% >80 years
- Approx. 800,000 affected in UK
- Approx. 35.6m affected worldwide

Future Challenge...

- Ageing population
- Social and economic challenge



Research Evidence

Reisberg et al (2010):

- SCI 4.5x more likely to develop MCI
- MCI 12% progressed to AD compared to people without MCI (1-2% progressed)

Kryscio et al (in Press):

- Subjective Memory Complaints (SMCs) - increased risk for progression to MCI/dementia (BRAiNS study)
- Brain donation autopsy reports: SMCs relating to higher levels of neuritic amyloid plaques
- Implications for the design of dementia prevention studies

Jessen et al (2014):

- Subjective Cognitive Decline (SCD)- progressive nature of cognitive decline in AD
- Characterization of at-risk states and detection of early disease are crucial for targeted dementia prevention
- Target for intervention where only mild neuronal damage...preserve functioning at a high level
- Problem...cannot detect SCD on standardized tests
- SCD is unspecific...also related to e.g.normal ageing, substance use, medication, psychiatric illness etc...
- BUT...doesn't take away that people still experience it
- SCD-I (Initiative) introduced to facilitate the development of a common SCD research concept

Attention in Ageing

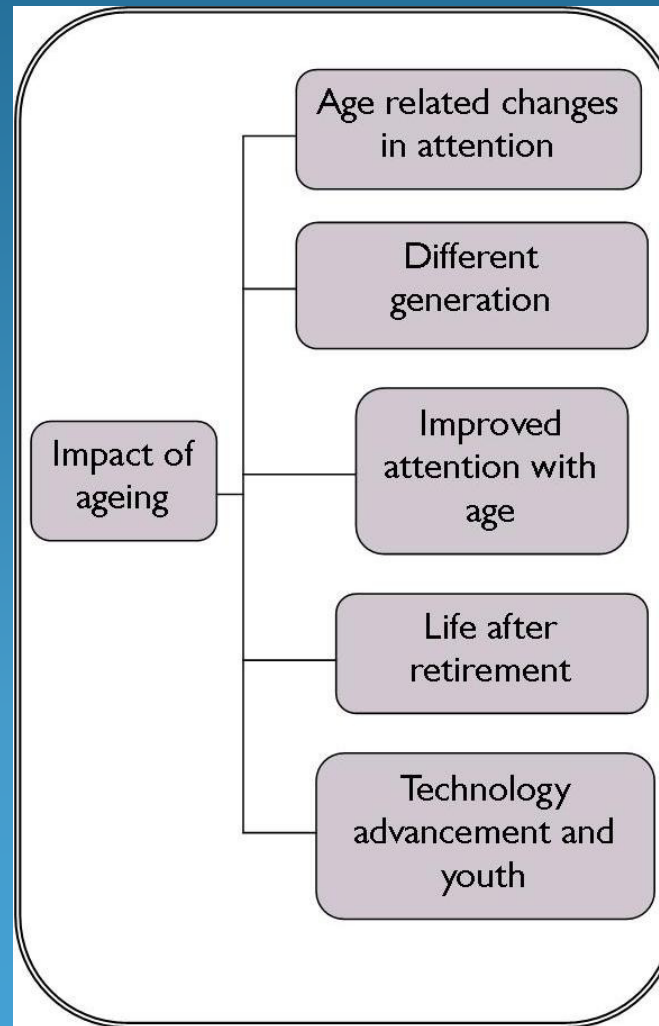
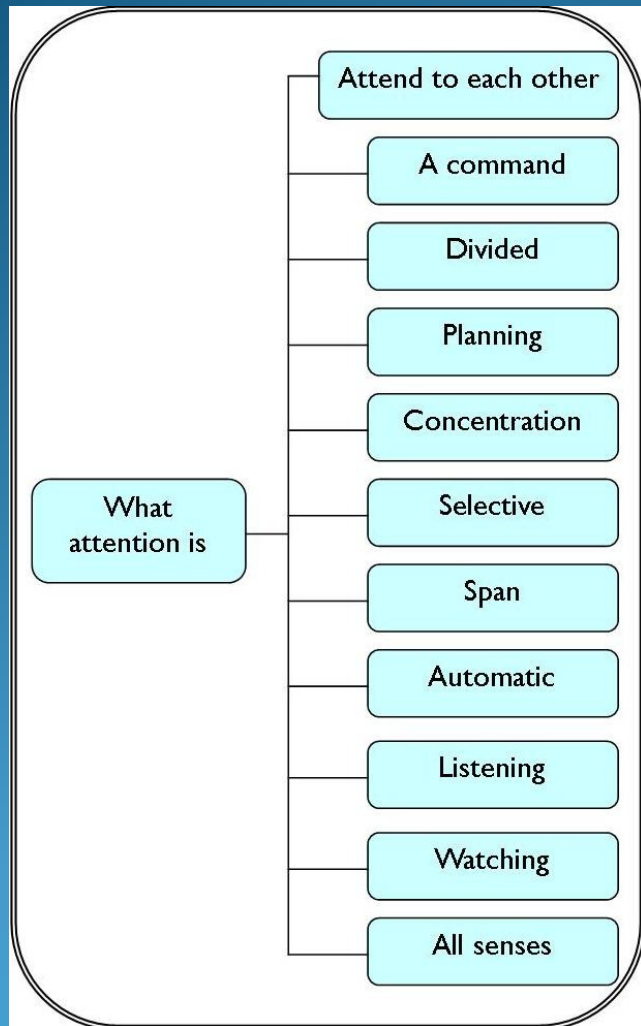
Aim...

- To inform the development of more sensitive & specific tests of attention
- Translate people's real-life experiences of attention into the development of more ecologically valid and clinically useful objective tests of attention
- Ultimately to work towards developing a monitoring tool to help identify AD risk factors earlier

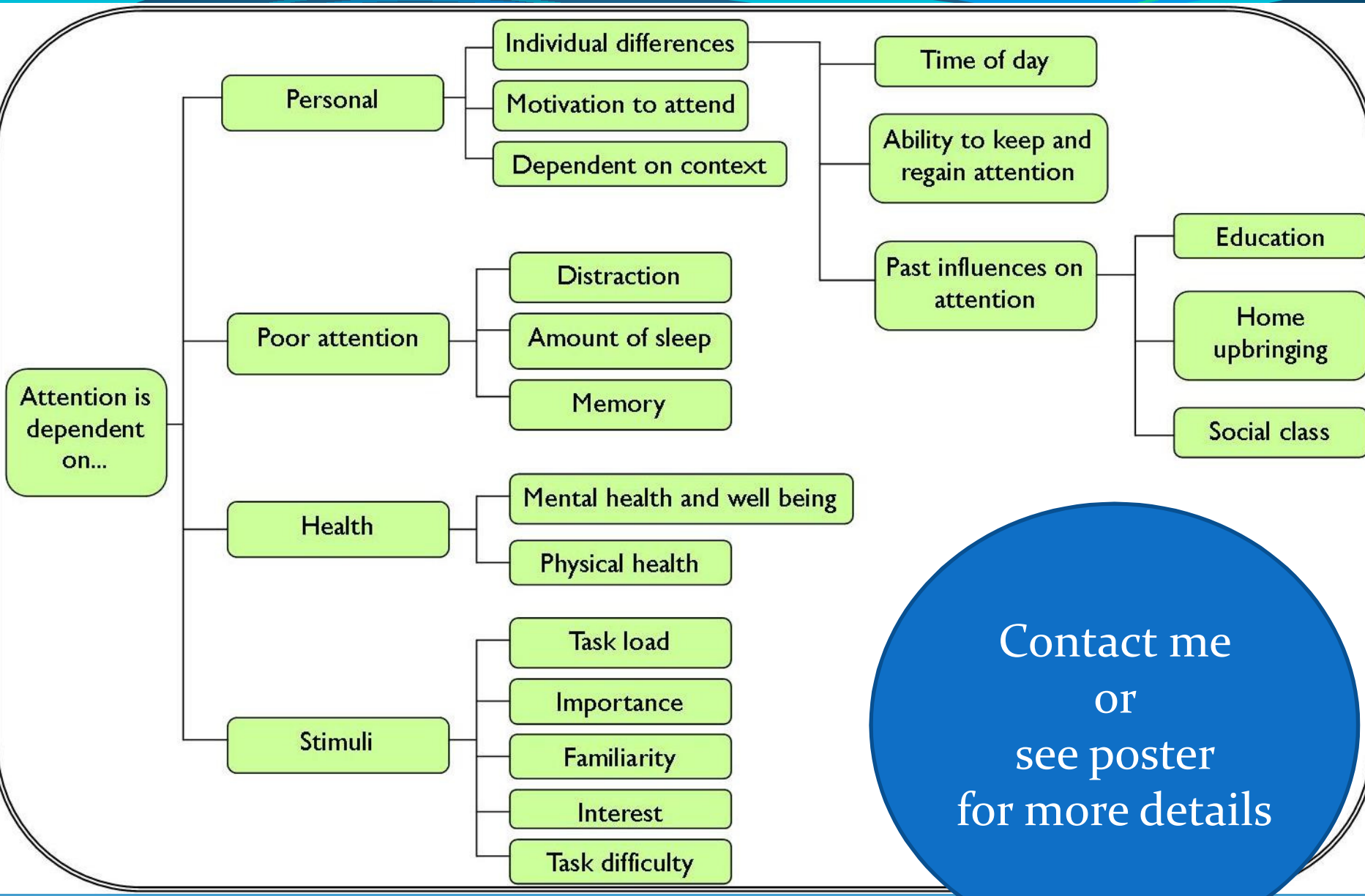
Method...

- Cross-sectional study
- x3 focus groups >65 years and x2 focus groups 18-30 years
- Thematic analysis; two coders
- Questions asked about: their understanding of attention; the importance of attention; changes in attention; iPad test feedback

Themes Identified: Attention



Contact me
or see poster
for more
details



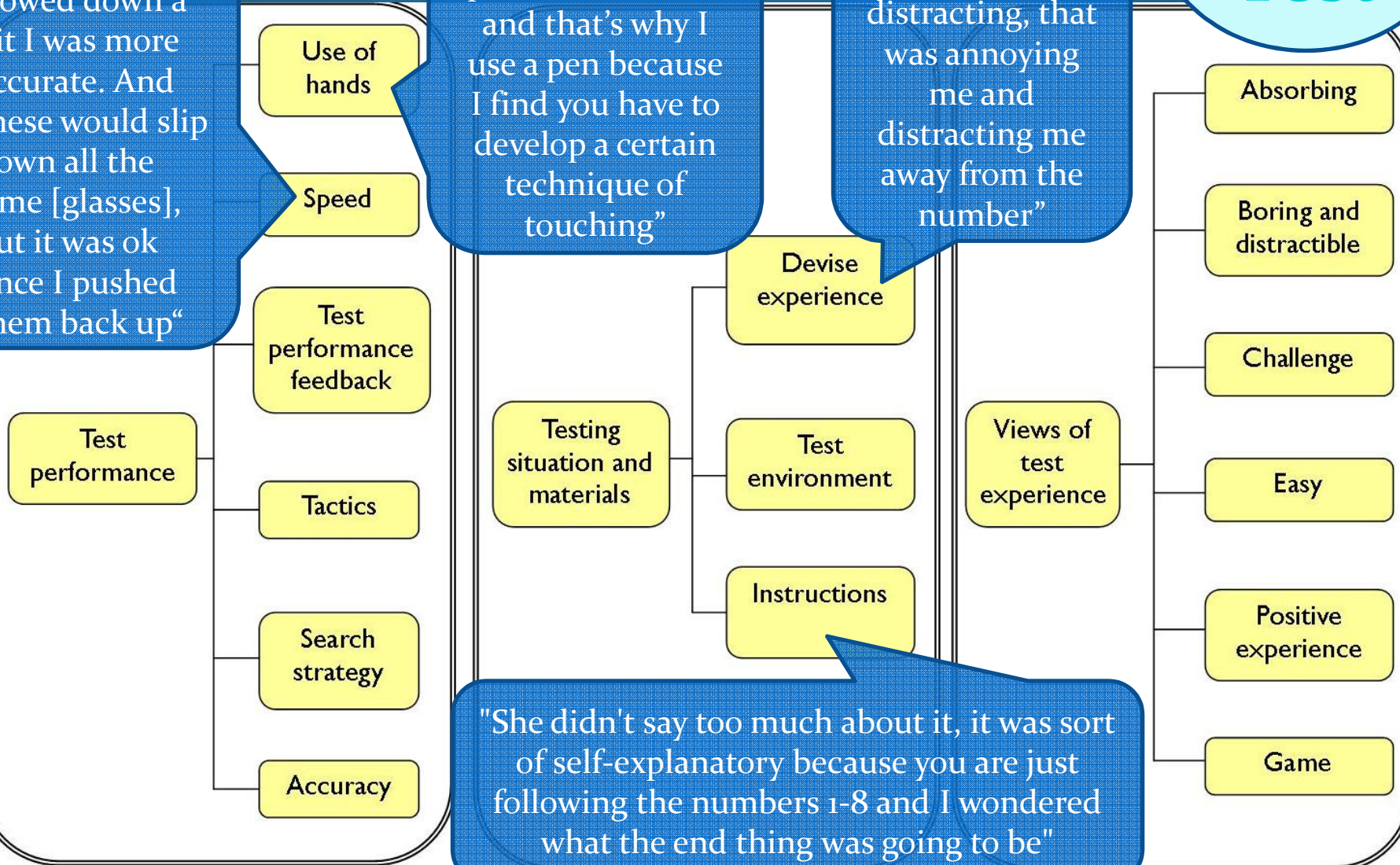
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iPad Test

"I made two mistakes the same as you, as soon as I slowed down a bit I was more accurate. And these would slip down all the time [glasses], but it was ok once I pushed them back up"

"The only problem I had with the touch screen is my nails. I have this problem at home, and that's why I use a pen because I find you have to develop a certain technique of touching"

"Like the shine on the ball, the little white bit I found quite distracting, that was annoying me and distracting me away from the number"



"She didn't say too much about it, it was sort of self-explanatory because you are just following the numbers 1-8 and I wondered what the end thing was going to be"

Conclusions & Next Steps

What can we take from this research?

- People find it difficult to verbalise what 'attention' is
- Highlighted that people will have different preconceived ideas about what the study is on and what they are signing up to (question ability to give informed consent)
- Many factors that need to be taken into account when using an iPad with older adults e.g. use of hands, spectacles, experience...
- Focus on methodological practice - set test instructions to improve ecological validity of test results

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