

Aging operators

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Process Plants on Safety, New Techniques to Improve Safety'

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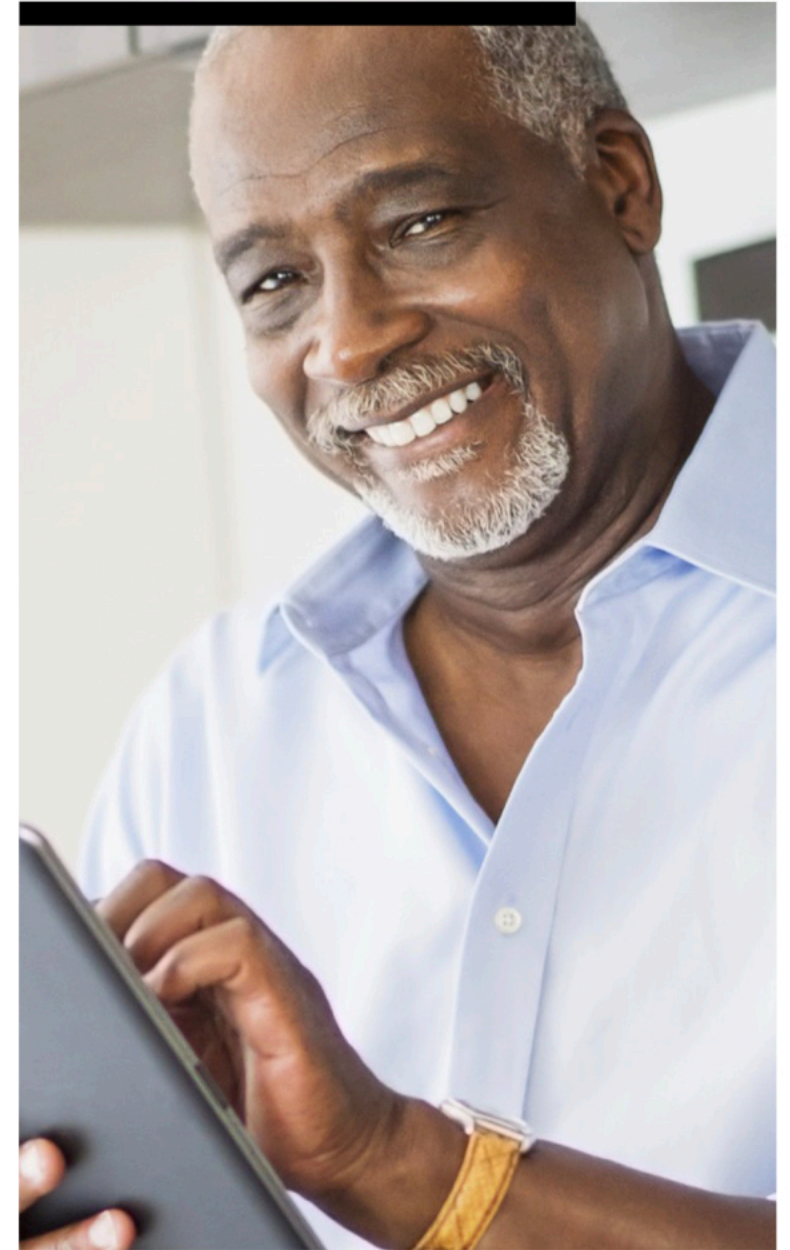




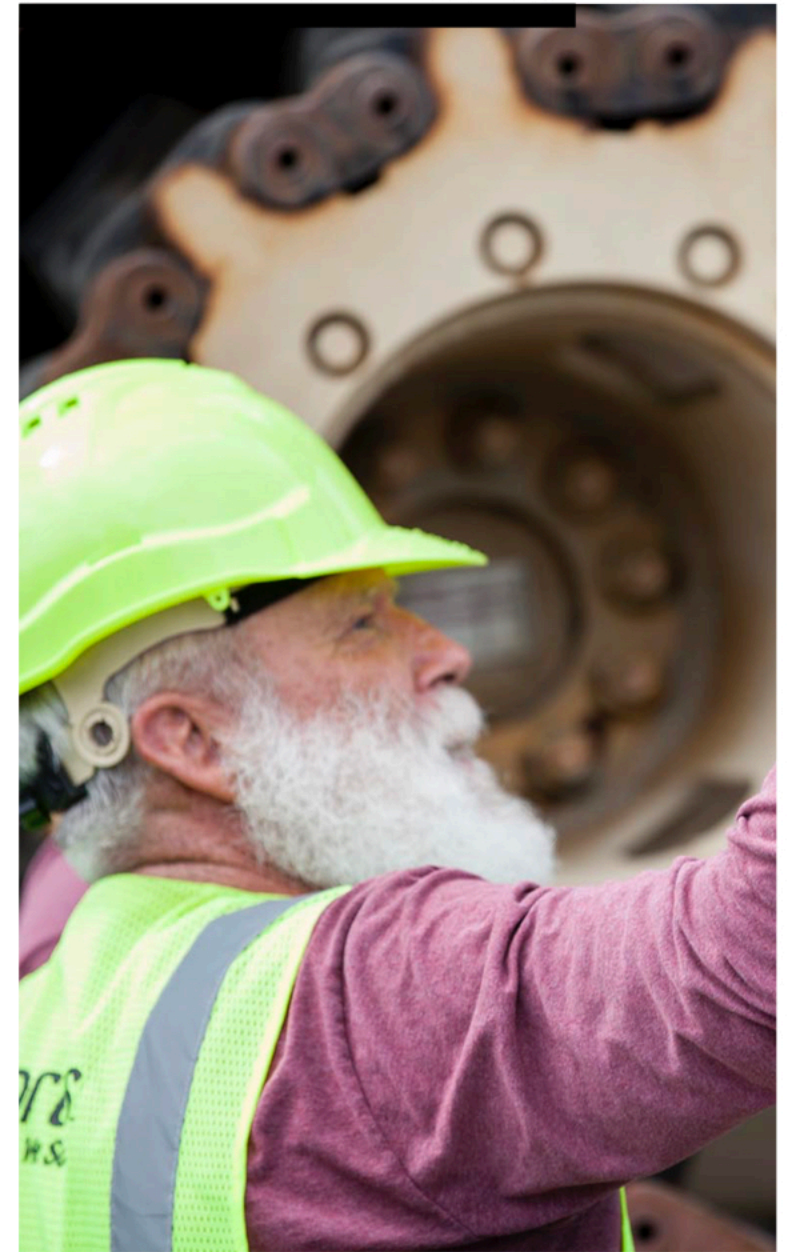
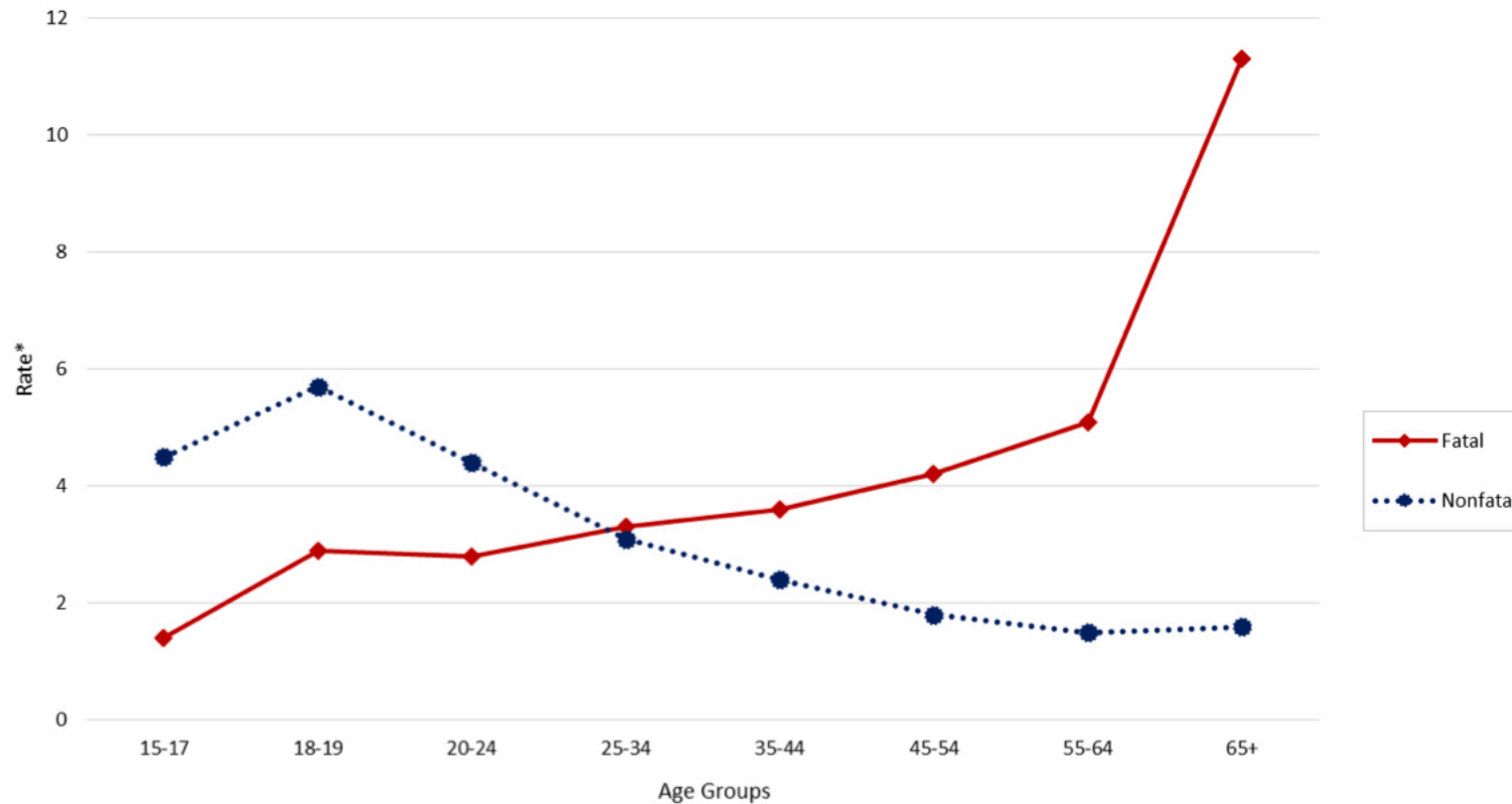


Today

- The influence of aging on cognitive performance
- The definition of 'aging' depends on who you ask
- Beware of generalisations, large individual differences
- From a cognitive psychological perspective:
 - Most functions are stable until about 70
 - Work experience and knowledge offsets cognitive decline
 - Adapt to strengths and weaknesses

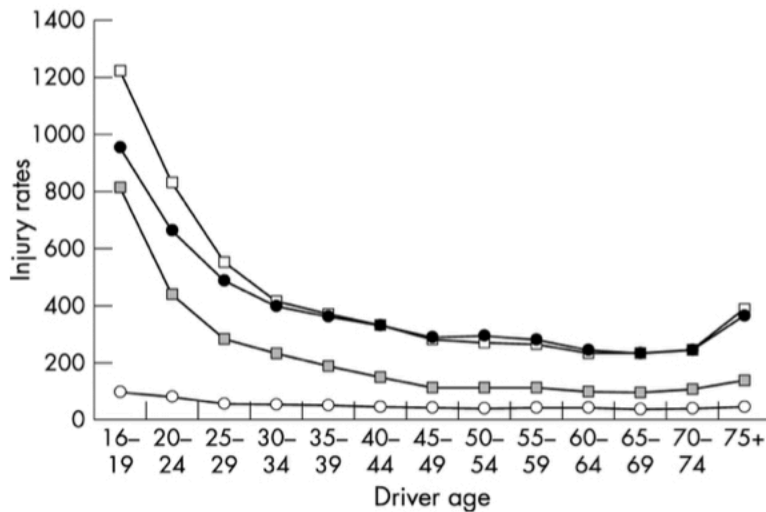


Aging and accidents

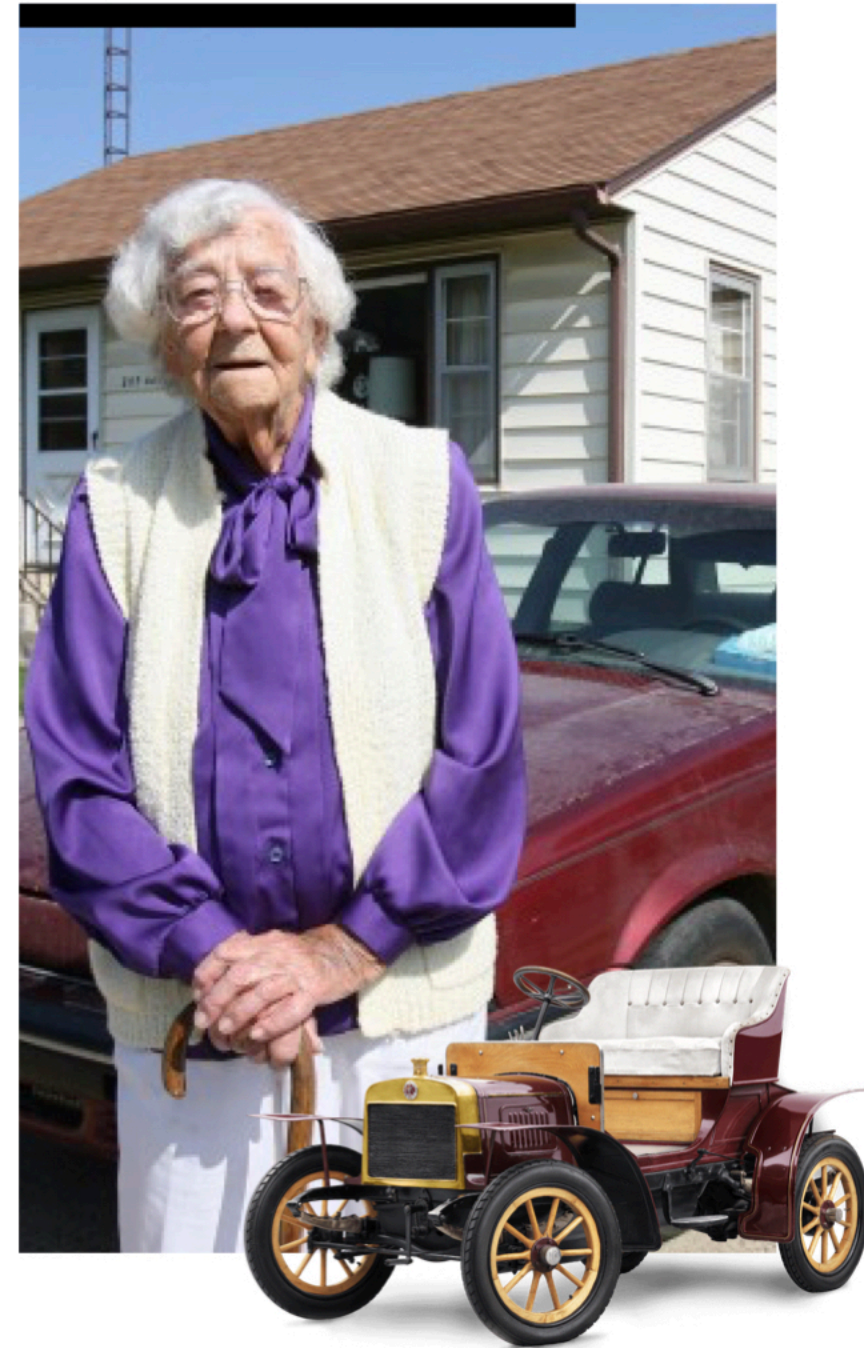
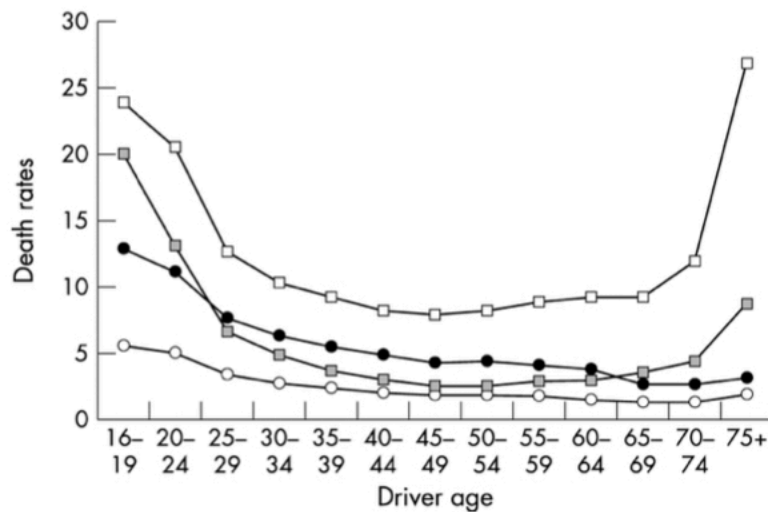


Aging and accidents

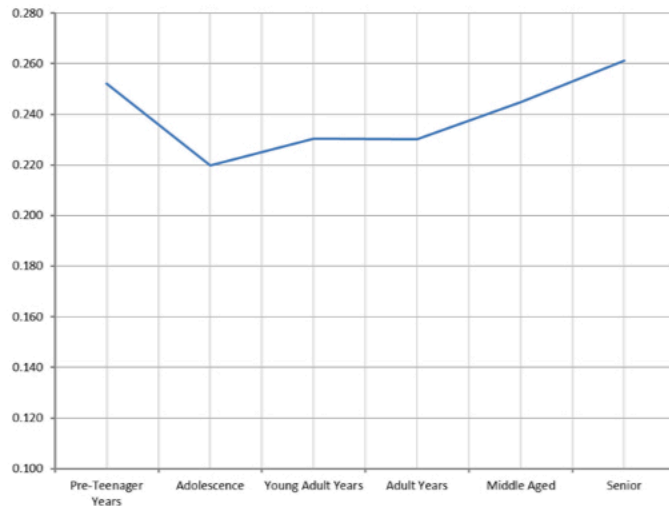
—□— Drivers
—■— Passengers in same vehicle as driver
—●— Occupants in other passenger vehicles: two-vehicle crashes
—○— Non-occupants: one-automobile crashes



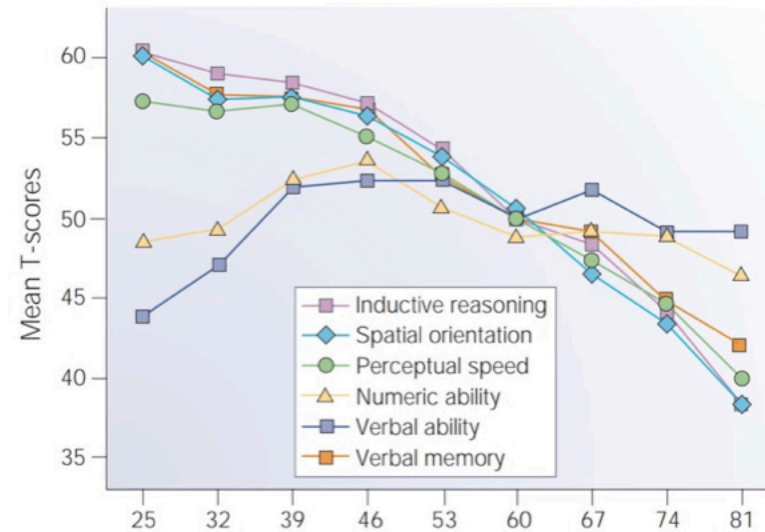
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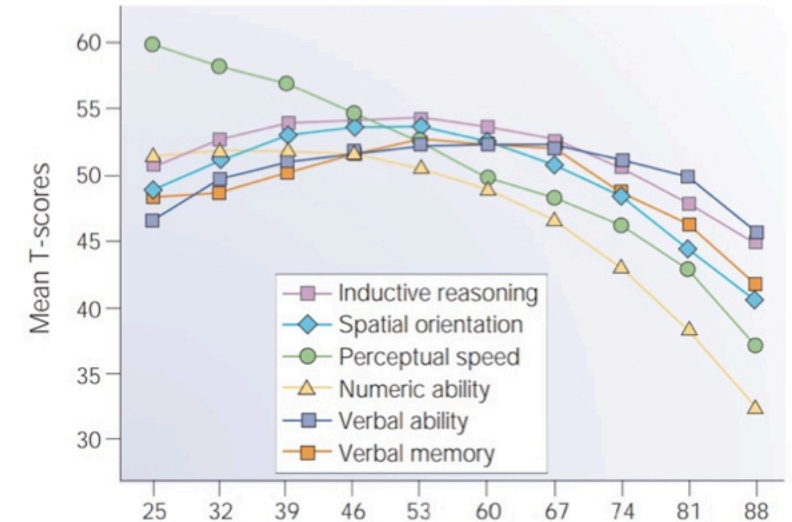
Cognitive abilities



Reaction time

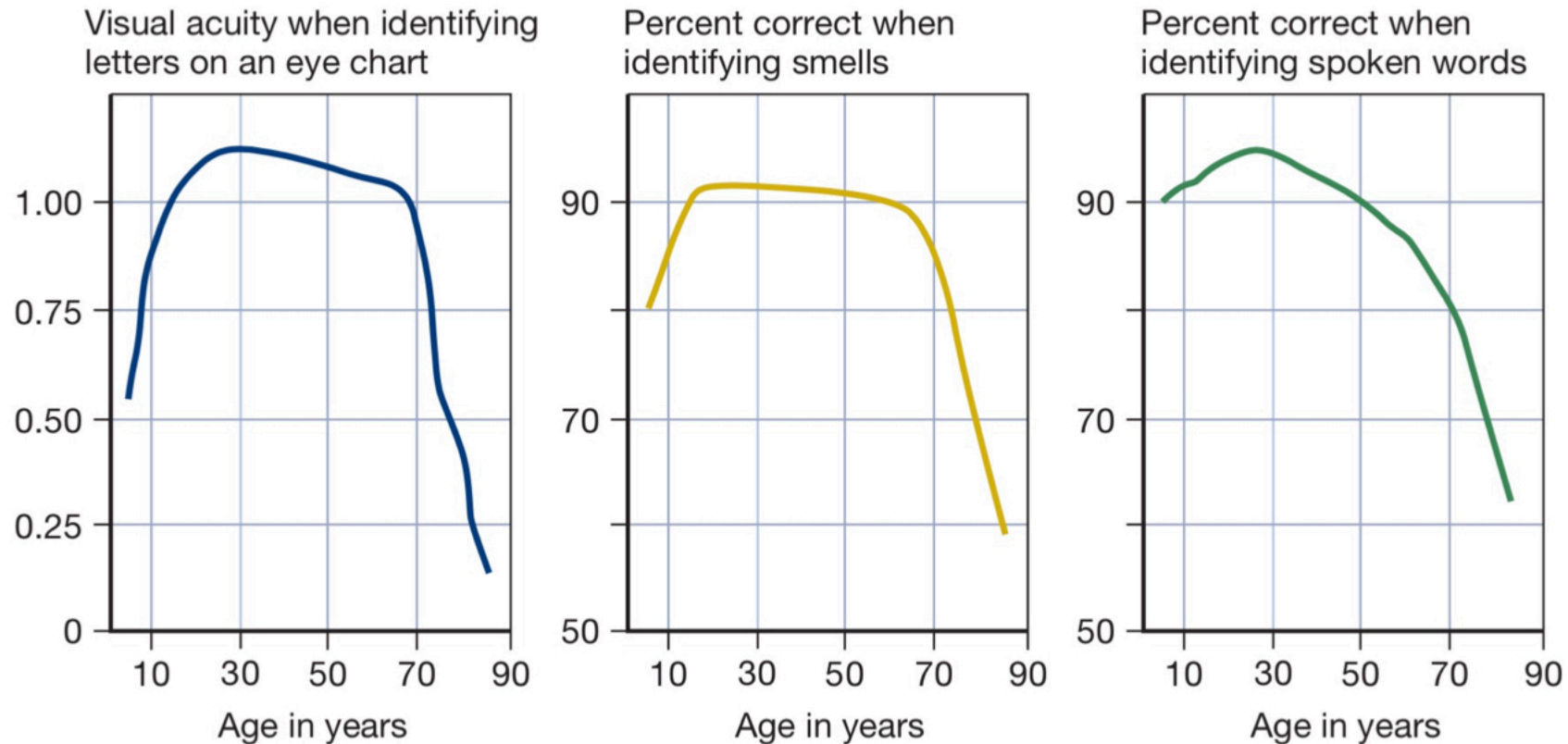


Abilities (cross sectional)



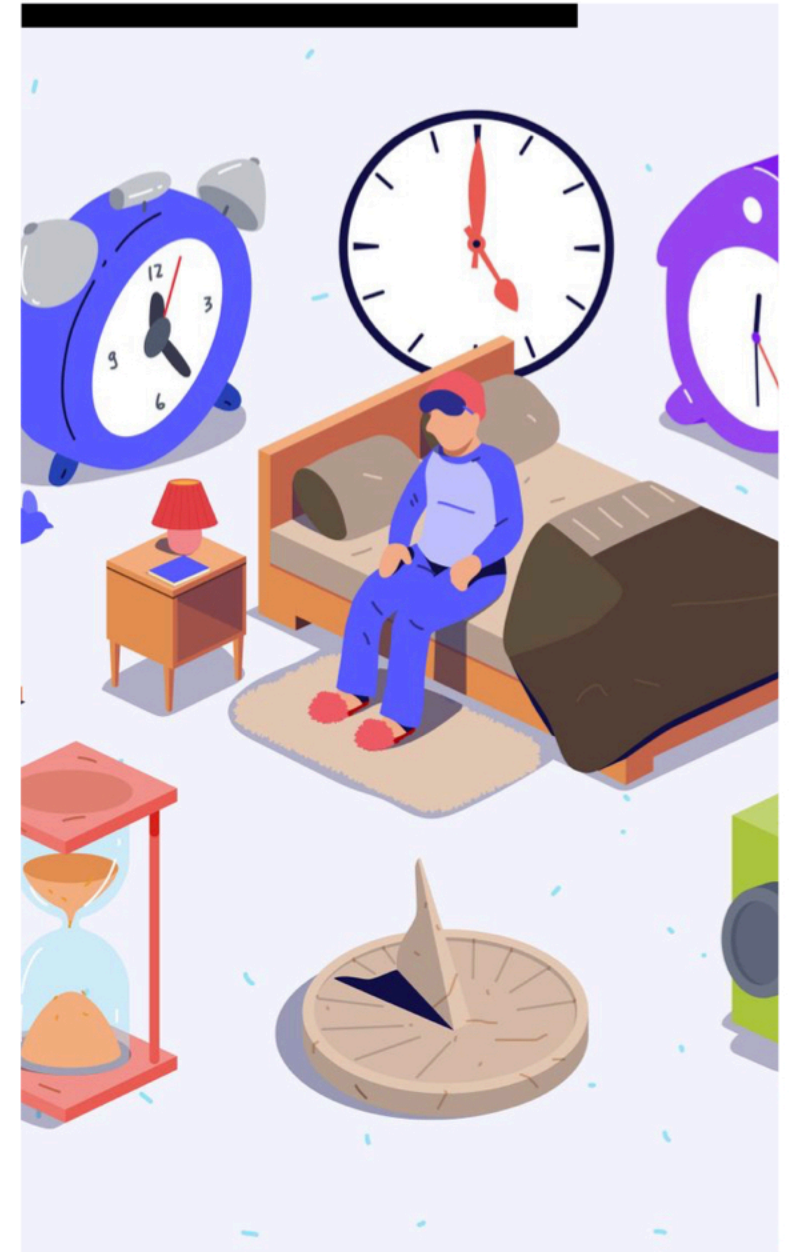
Abilities (longitudinal)

Really, it is not that bad

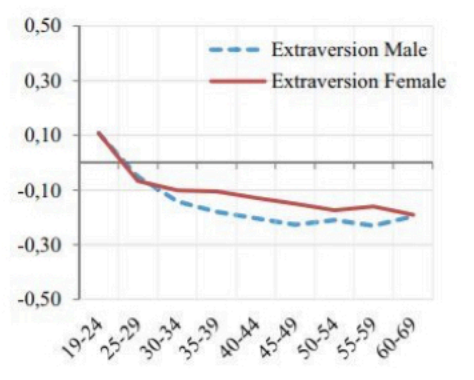
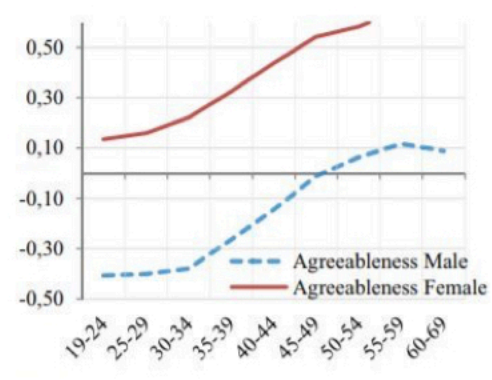
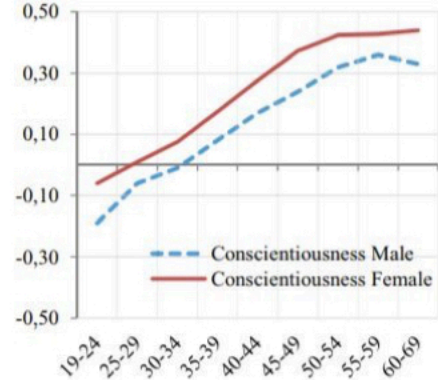
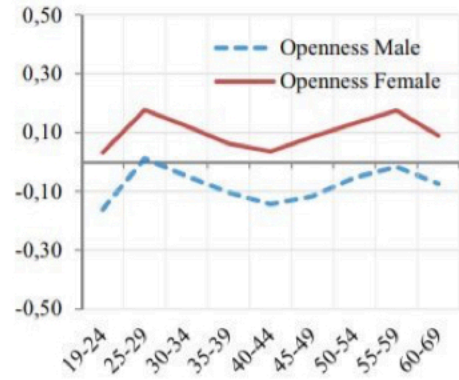
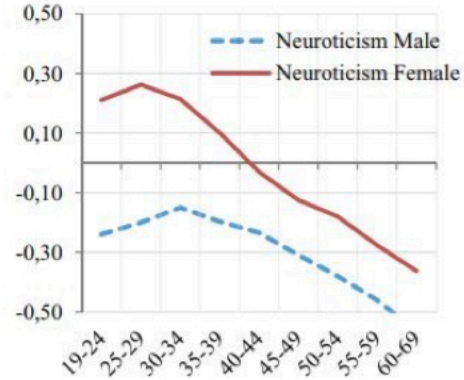


Circadian rhythms

- From a circadian rhythm perspective old means > 45-50
- Reduced sleep duration (general problem until 62), increased sleepiness
- Greater difficulties adjusting to changes in shifts
- Especially chronotype 'lark' (morning), less in night owls
- Solutions:
 - align with personal preferences
 - reduce number of different shifts



Personality and aging



Abilities

Improves	Declines
Selective attention	Divided attention (switching)
Routine tasks	Sustained attention
Follow fixed rules	Inhibition
Semantic memory	Episodic memory
Creativity	Planning
Knowledge	Coordination
Crystallised intelligence	Fluid intelligence
Moral reasoning, work ethics	New learning
Impression management	Perceptual skills
Mood	Memory for 'bad things'





What can you do?

- Fit the job to the weaknesses and strengths
 - Increase signal to noise ratio
 - Large text, clear sounds
 - Limit need for:
 - Flexibility (breadcrumbs, consistent rules and lay-out, no surprises)
 - Abstract memory (biometrics or words instead of 'pin code')
 - Attention (alarms, consistent schedules, clear routines)
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Conclusions

- Many prejudices about ‘aging employees’ are unfounded
 - Aging employees have less accidents but the consequences are more serious
 - Until about 70, cognitive abilities remain stable. Physical decline...
 - Adaptivity is lower, compensate by spending extra learning time upfront
 - Positive contribution to diversity in teams
 - Don’t bet on technology (yet). Focus on ‘traditional’ solutions: e.g. decluttering walkways, proper lighting, skid resistant floors
 - Measures to improve the working situation for aging employees always benefit the younger too
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Success!

