



Silver Lining - a study of employability and learning trajectories of late career learners

Active ageing and its impact on skills, employability and other outcomes

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Importance of active ageing for skills and other outcomes

- **'Active ageing'**
 - Increasingly important policy concept in ageing societies
 - Leads to positive outcomes into older ages (successful ageing)
 - Increased employment & productivity
 - Continued learning
 - Health and other well-being
 - Maintenance of cognitive skills
- **The relationship between age and skills matters in the context of**
 - Increases to life expectancy
 - Increases to the average age of the workforce
 - Debates on extending the retirement age
 - Understanding what drives skill gain/loss over the lifespan in terms of individual behaviour and institutional differences



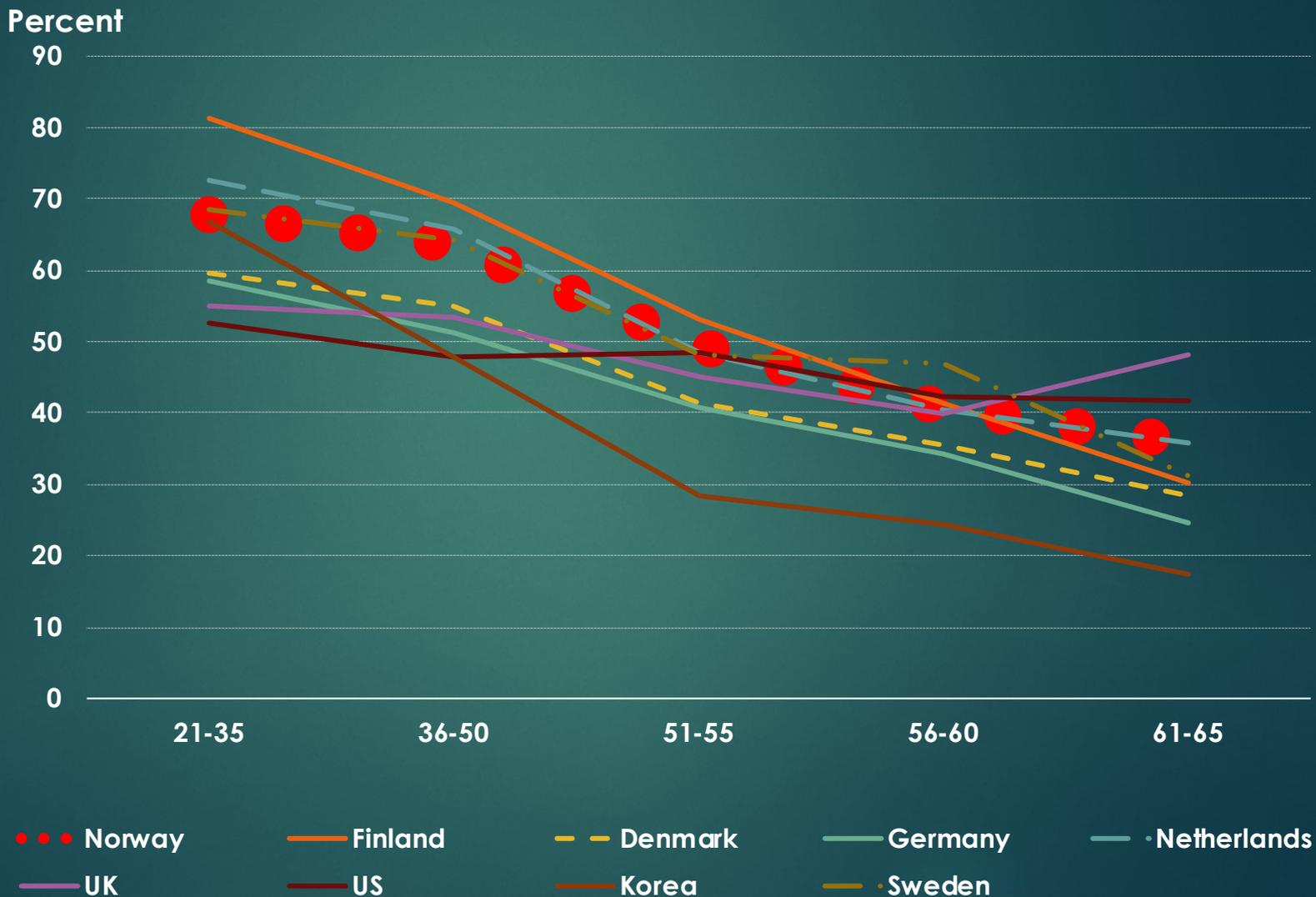
Empirical patterns of age-skill profiles in the research literature

- **Age and cognitive skills tend to be negatively related**
This is a consistent finding based on numerous studies that use different methods (cross-sectional, longitudinal)
Pattern is observed for basic cognitive skills (reasoning, memory, processing speed) and cognitive foundation skills (literacy, numeracy and problem solving)
- **Peak ages differ depending on method and specific measure**
Cross-sectional profiles tend to show a negative slope starting earlier
- **Measures of cognitive mechanics tend to show earlier declines**
Measures of 'cognitive mechanics' (reasoning, speed, memory) start high at 16-20 and tend to show a negative slope beginning in early 20s
Measures of 'cognitive pragmatics' (vocabulary, knowledge) start low at 16-20, and tend to show positive slope until mid 50s, and then negative slope thereafter



Age-skill profiles in PIAAC

Literacy skill at Level 3 or higher by age





Interpreting age-skill profiles

Why do we observe negative slopes in the average trend?

Complex mix of individual and social factors affecting skill gain & loss over time across cohorts and over the lifespan within cohorts

Are cognitive skills of young adults rising over time? (cohort effects)

Systematic change over time to the quality of education, other institutions or other social factors (pervasive use of text in ICTs at earlier and earlier ages)

Are cognitive skills of adults declining as they age? (ageing effects)

Skill loss due to neurological ageing

Skill loss due to individual behaviours (use-it-or-lose-it):

low mental, physical and social activity

Trend based on single cross-section difficult to interpret

Drawing on other research to interpret profiles based on PIAAC is essential

Repeated cross-sectional measures (IALS & PIAAC) useful to estimate whether cohort & ageing effects exist but only at age-cohort level

Longitudinal measures useful to estimate whether ageing effects exist at the individual level

Identifying why cohort & ageing effects exist remains difficult with any design



The added value of analysing age-skill profiles with repeated measures

- PIAAC offers a unique opportunity to examine trends at cohort level by providing repeated measures of literacy skills for a number of countries
IALS results made comparable to PIAAC results
- As part of a special issue of the European Journal of Education produced by our project "Silver Lining" we invited two papers to analyse ageing and skills on basis of PIAAC and IALS
Barrett & Riddell - Ageing and skills: the case of literacy skills
Calero et al. - Education, age and skills: An analysis using PIAAC data
- **Results confirmed**
Age related decline of cognitive skills
Variations across countries suggesting institutional and practice-related differences (e.g. educational quality, pensions systems)

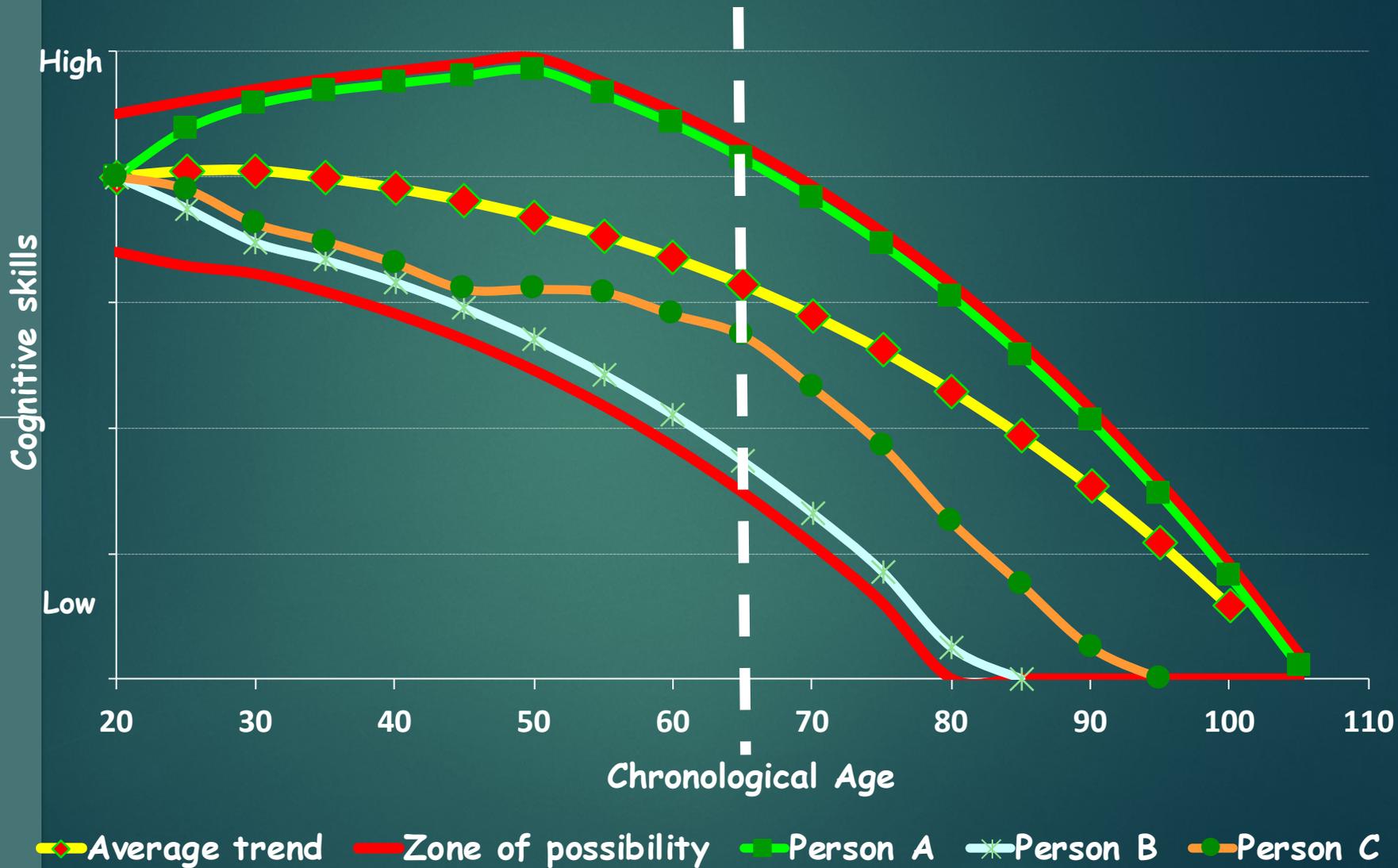


Linking PIAAC to other research

- Evidence suggests that age-related decline occurs on average
- Evidence also suggests that it may be possible to mitigate, delay or prevent cognitive decline
 - Education and training
 - Other activities: physical, social and mental activities
- Observed trends are based on averages
 - Individual trajectories vary
 - Some estimates suggest that up to 1/3 of adults considered 'successful agers'
- An important role for public policy is to identify the factors that may be involved in 'successful ageing'

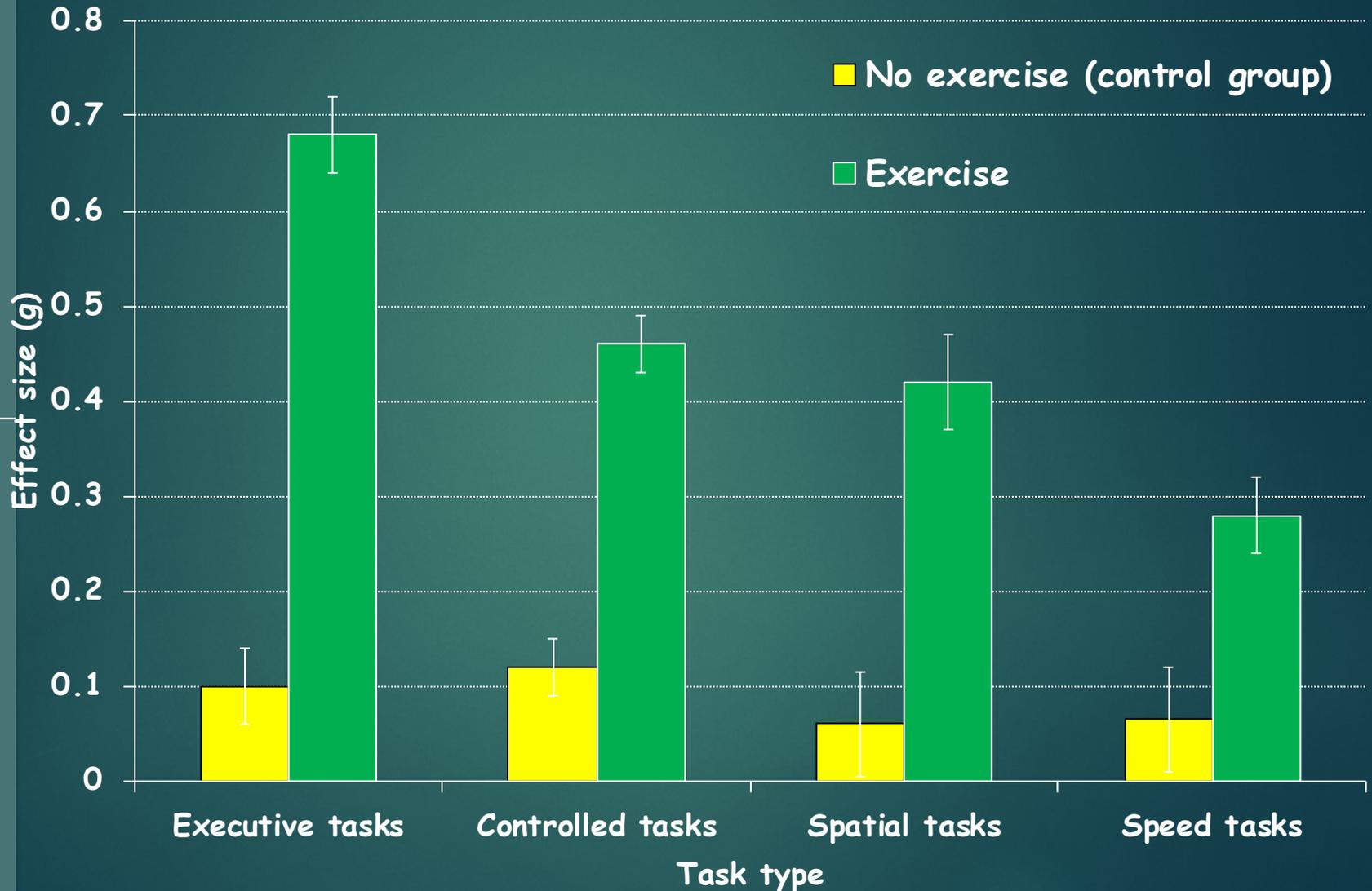


Average trend, zone of possibility, and individual trajectories





Experimental evidence on the impact of physical activity in old age on different types of cognitive tasks



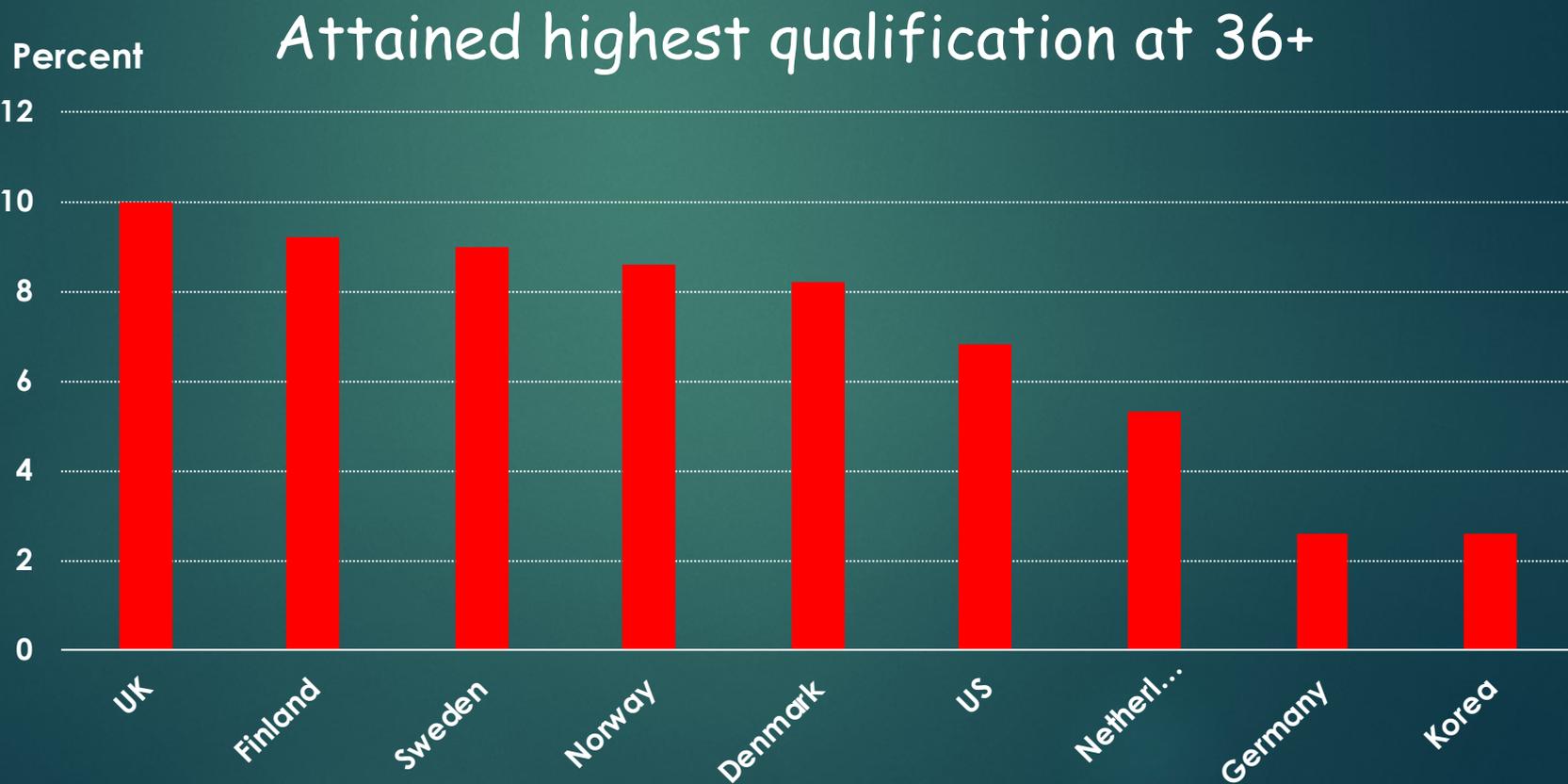


Empirical evidence suggesting that formal adult education in mid to late life related to maintenance of cognitive skill into older ages

- Two papers on this in special issue

Desjardins

Midtsundstad & Nielsen





Results of multivariate analysis

■ Key findings

Attaining qualifications at older age

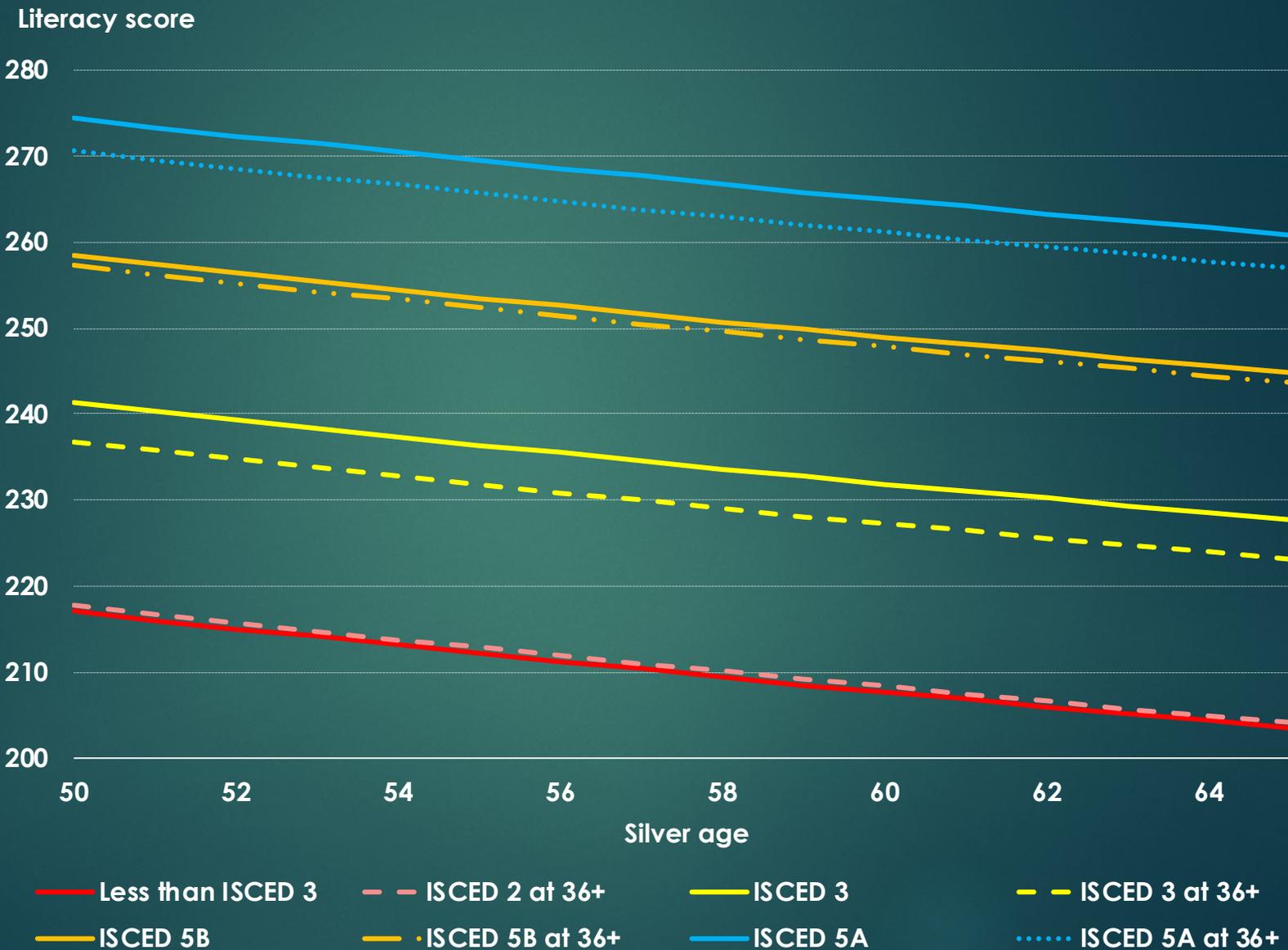
- Boosts cognitive skills into older ages
- Promotes learning (NFE activity) into older ages
- Boosts health into older ages
- Promotes employment into older ages

Higher levels of skills, non-formal education activity and health are associated

- with higher probabilities of employment into older ages
- reduced chance of disability, unemployment and more generally inactive aging

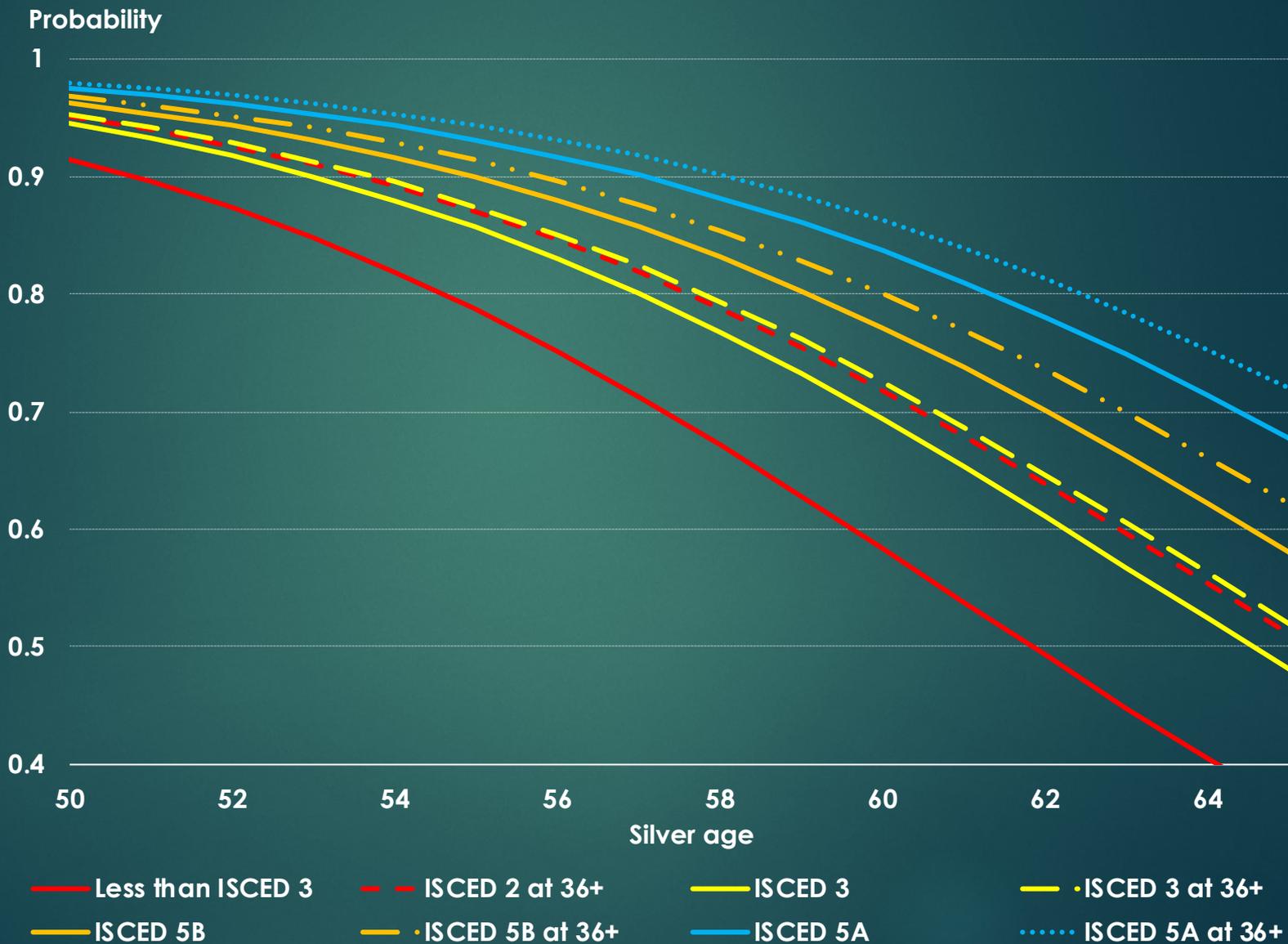


Attaining qualifications at older age (36+) boosts cognitive skills into old age



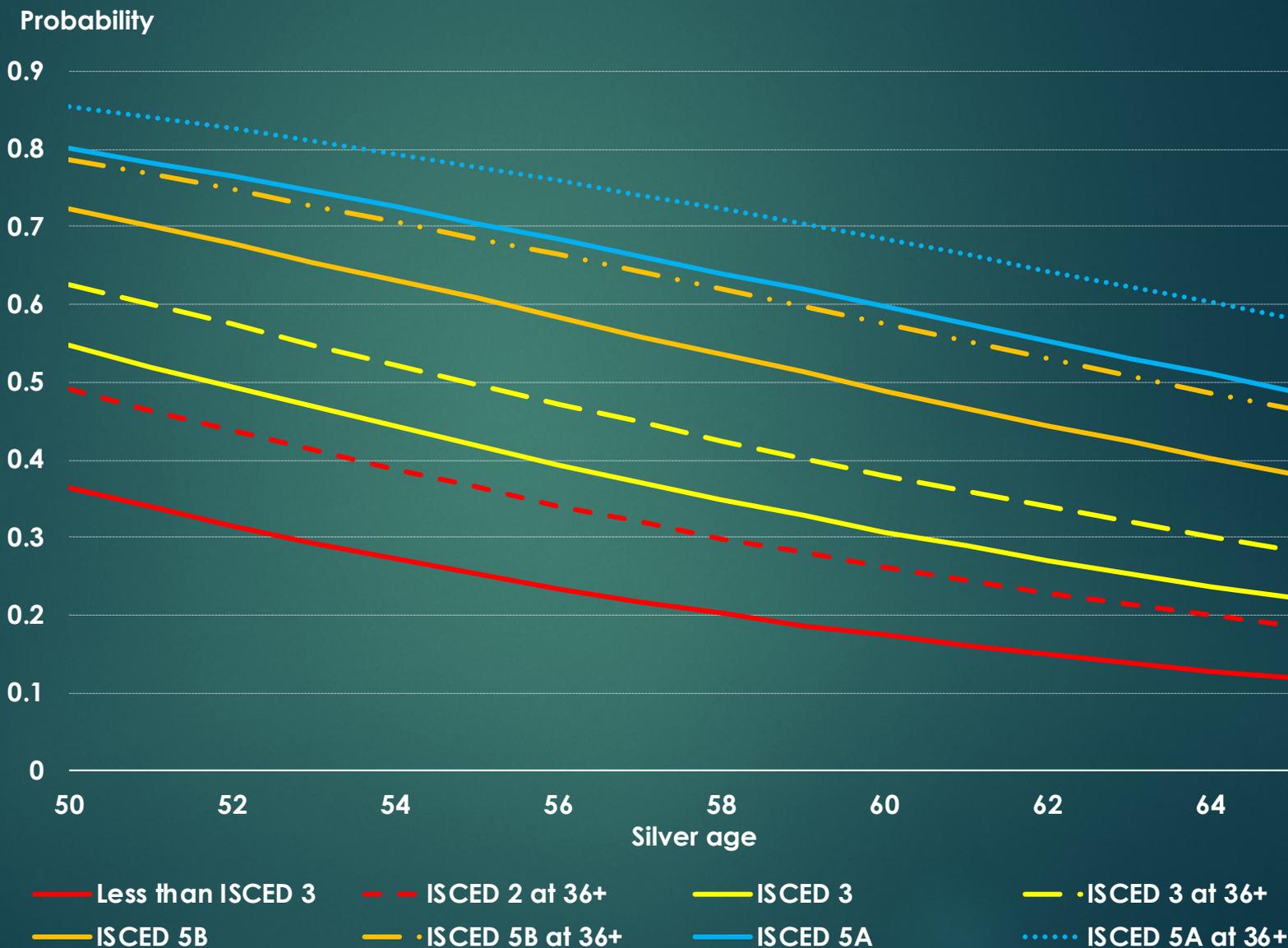


Attaining qualifications at older age (36+) promotes employment into old age



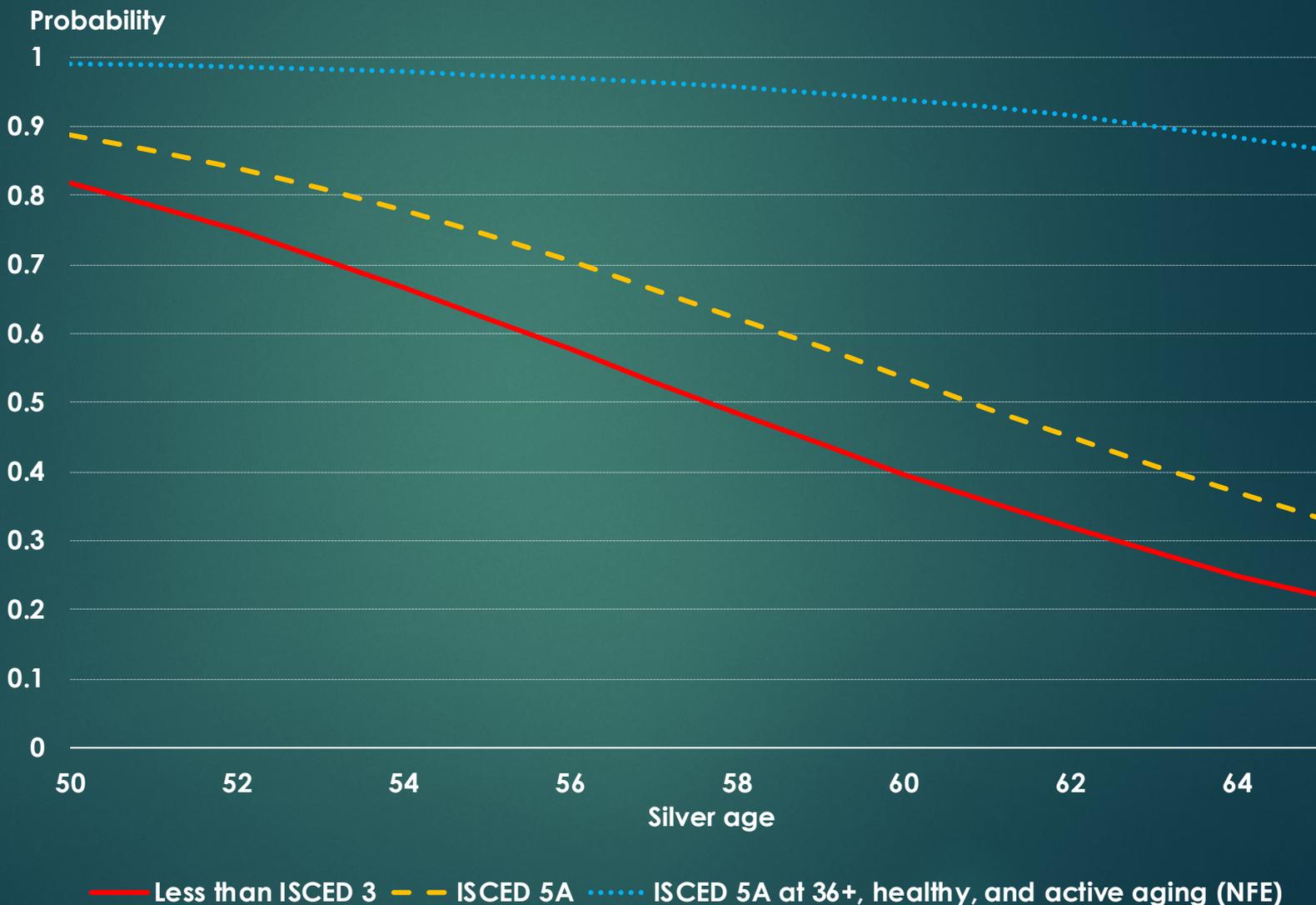


Attaining qualifications at older age (36+) promotes learning into old age





Health and continued learning (NFE activity) boosts probability of employment into old age





Implications

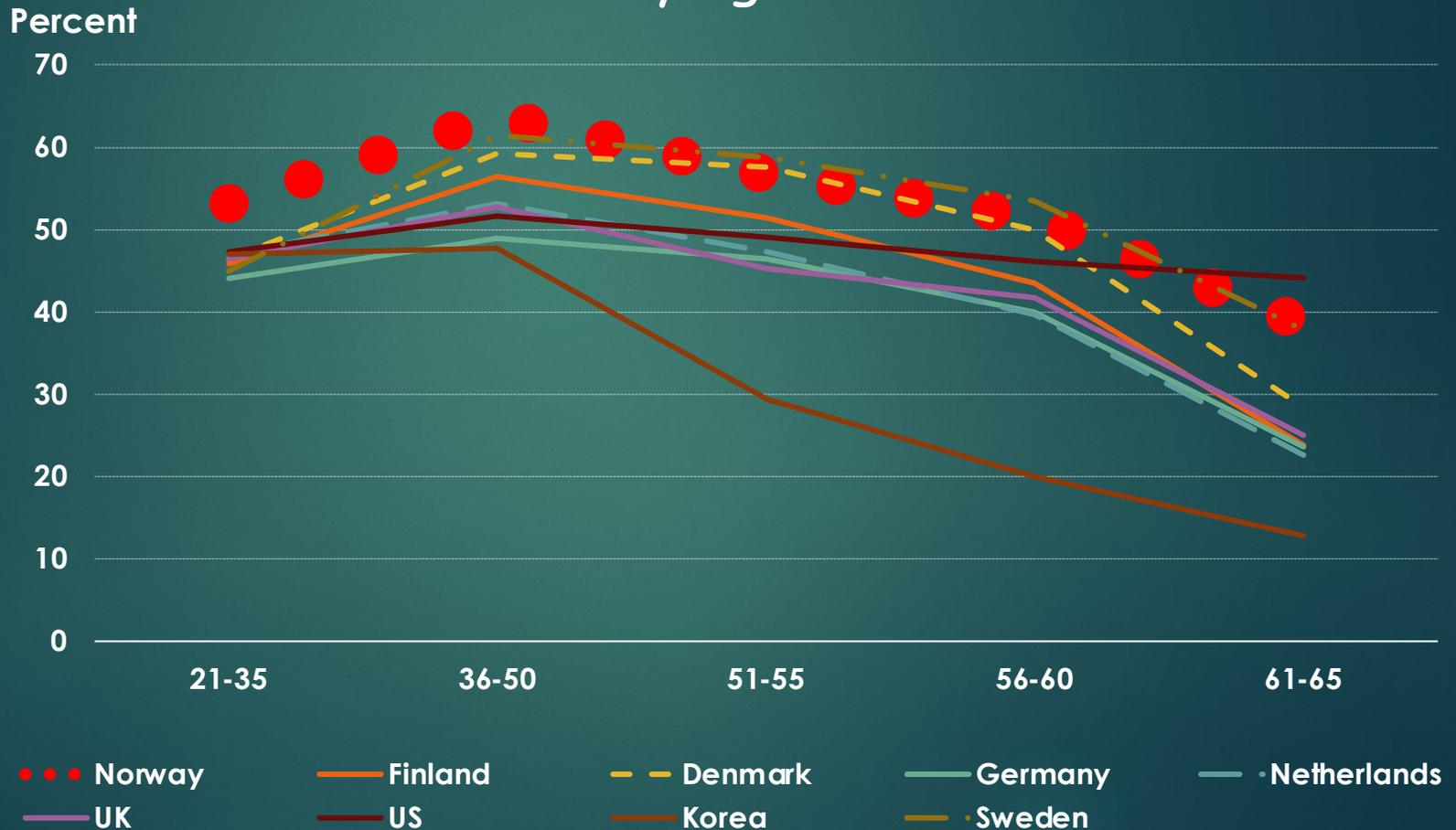
- **Educational interventions in later life can matter for skills**
It turns out also for a range of outcomes (employment, earnings, active aging)
→ Continued adult learning (formal and non-formal) very important
- **Key takeaways**
Open and flexible qualification systems that cater to older adults promote active aging

Active aging (defined in multiple ways) has impacts on employment and skills



Additional work in progress

At least two types of reading once a week (at work)
by age





Additional work in progress

- Recurring practices over the lifespan such as reading, writing and numeracy related behaviours including at work can have substantial impacts

Follows from practice engagement theory

Alternatively, the 'use it or lose it' or 'intellectual challenge' hypotheses

→ Active ageing very important

- **Additional implications**

Related to occupation and production structures

For how work is organized and tasks are distributed