



PIAAC 2023: Adults with Low Information-Processing Skills in Estonia

Based on: **Mari Liis Räis (2025). PIAACi uuringu aruanne: madala infotöötlusoskuste tasemega täiskasvanud**

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BACKGROUND

According to PIAAC 2023, Estonia performs above the OECD average in literacy, numeracy and adaptive problem solving. However, a substantial share of adults still has low information-processing skills, limiting their participation in work, learning and society. Despite growing participation in adult learning, the proportion of adults with low skills has increased.

Key figures (Estonia, ages 16–65)
20% have low literacy skills
16% have low numeracy skills
21% have low adaptive problem-solving skills
12% have low proficiency in all three domains

WHAT ARE INFORMATION-PROCESSING SKILLS?

-  Literacy - understanding, evaluating and using written information.
-  Numeracy - applying mathematical information in practical situations.
-  Adaptive Problem Solving - solving problems in dynamic and information-rich environments.

Level 2 information-processing skills are considered the minimum proficiency level for independent functioning in contemporary society. In this study, low-skilled adults are defined as individuals performing **below Level 2 in literacy**.

DATA AND METHODS

- OECD Survey of Adult Skills (PIAAC 2023)
- Adults aged 16–65 residing in Estonia
 - 6,665 respondents

- Analytical approach:
- Descriptive analysis of risk groups
 - Logistic regression analysis
 - Latent class analysis (LCA)

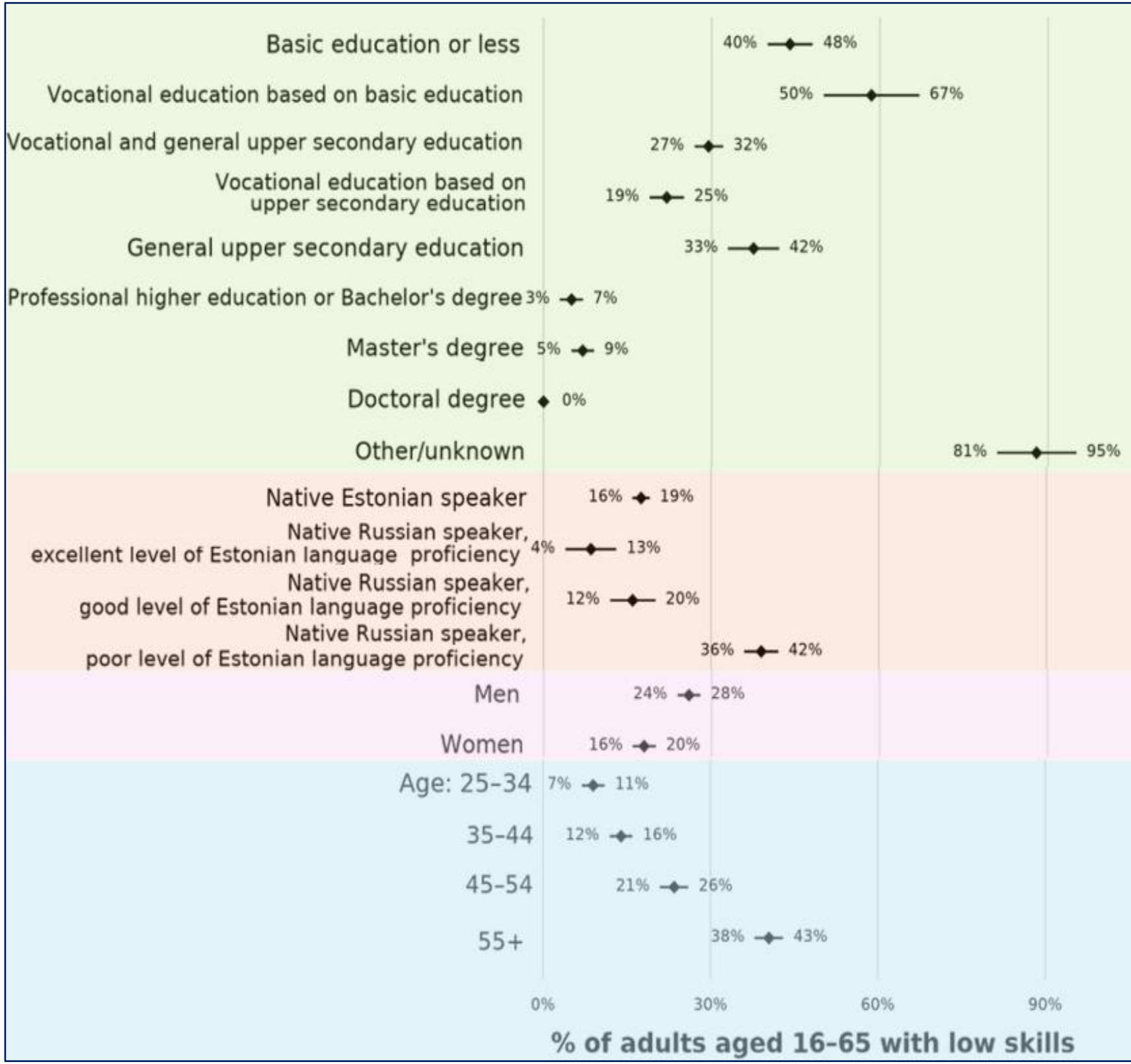


Figure 1. Share of adults with low literacy skills by background characteristics.

Logistic regression analysis showed that low literacy skills were associated with gender, age, education, occupation and income. In addition, individuals with poor Estonian language proficiency and first-generation immigrants were more likely to have low literacy skills.

FIVE PROFILES OF LOW-SKILLED ADULTS

Profile	Main Characteristics	Share ¹
2	Lower educated native Estonian-speaking men in blue-collar occupations	38–44% / 8%
4	Low-paid native Estonian-speaking older women without higher education	19–24% / 4%
1	Native Russian-speaking older women in low-skill occupations	14–17% / 3%
3	Native Russian-speaking older men in occupations with varying skill intensity	12–16% / 3%
5	Highly educated native Estonian-speaking older women participating in non-formal training	6–9% / 1.5%

¹First percentage = share among adults aged 16–65 with low literacy skills; second percentage = share of all adults aged 16–65
Profiles were identified using latent class analysis (LCA)

SOCIAL-EMOTIONAL SKILLS

Adults with low literacy skills reported lower openness, intellectual curiosity, emotional stability and extraversion. No significant differences were found in sociability.

KEY FINDINGS

- Who is most at risk?
- The risk of low literacy skills is not evenly distributed across the population.
- Adults at the highest risk are:
- Older adults (especially aged 55+)
 - Adults with lower levels of education
 - Adults with poor Estonian language proficiency
 - Adults employed in low-skilled occupations
 - Adults with lower incomes

Education is the strongest protective factor against low literacy skills, while age is one of the strongest risk factors.

The findings demonstrate that low skills can occur even among adults with higher education and participation in training.

POLICY IMPLICATIONS

- One-size-fits-all approaches are unlikely to work.
- Policy measures should:
- Target older adults, low-educated adults and linguistically vulnerable groups
 - Recognise that participation in adult learning alone does not guarantee strong literacy skills
 - Avoid excluding highly educated adults from support measures solely on the basis of educational attainment
 - Support both skill acquisition and skill maintenance throughout adulthood
 - Consider integrating support for social-emotional skills into adult learning programmes
 - Design interventions that reflect differences in skill profiles, labour market position and learning needs

