

# What are the skills of the current labor force in Moldova?

*First results from the Survey on skills measurement and labor market barriers in Moldova (STEP-lite)*



**WORLD BANK GROUP**

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*Skills for Jobs Conference*

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Schweizerische Eidgenossenschaft  
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Swiss Agency for Development and Cooperation SDC  
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Швейцарское управление по развитию и сотрудничеству

# Outline

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-  Relevance
-  Data & methodology
-  Findings
-  Conclusions

# Disconnect between the supply and demand for skills

Relevance



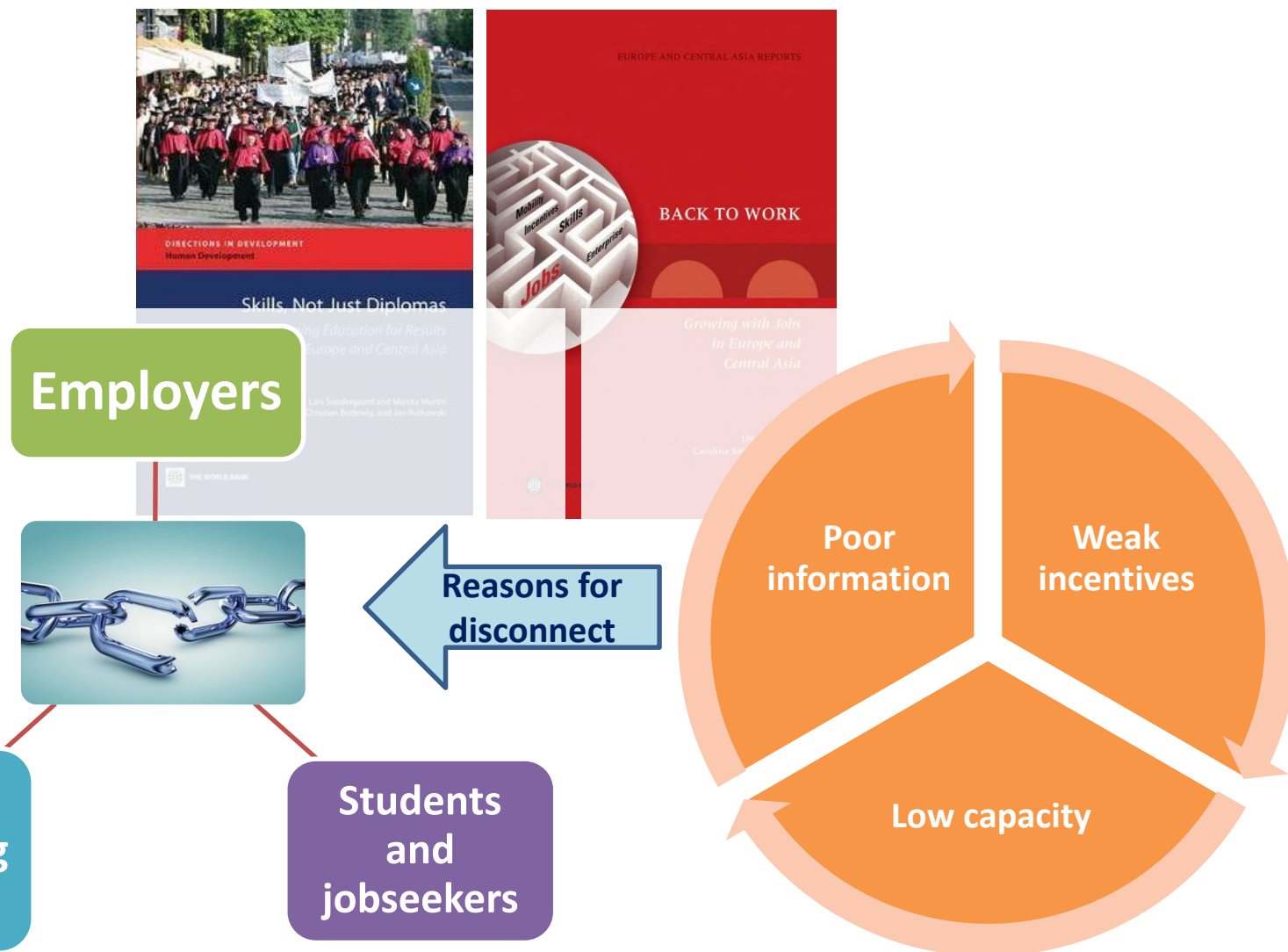
Data & methodology



Findings



Conclusions





# Objectives of the study

## Objectives:

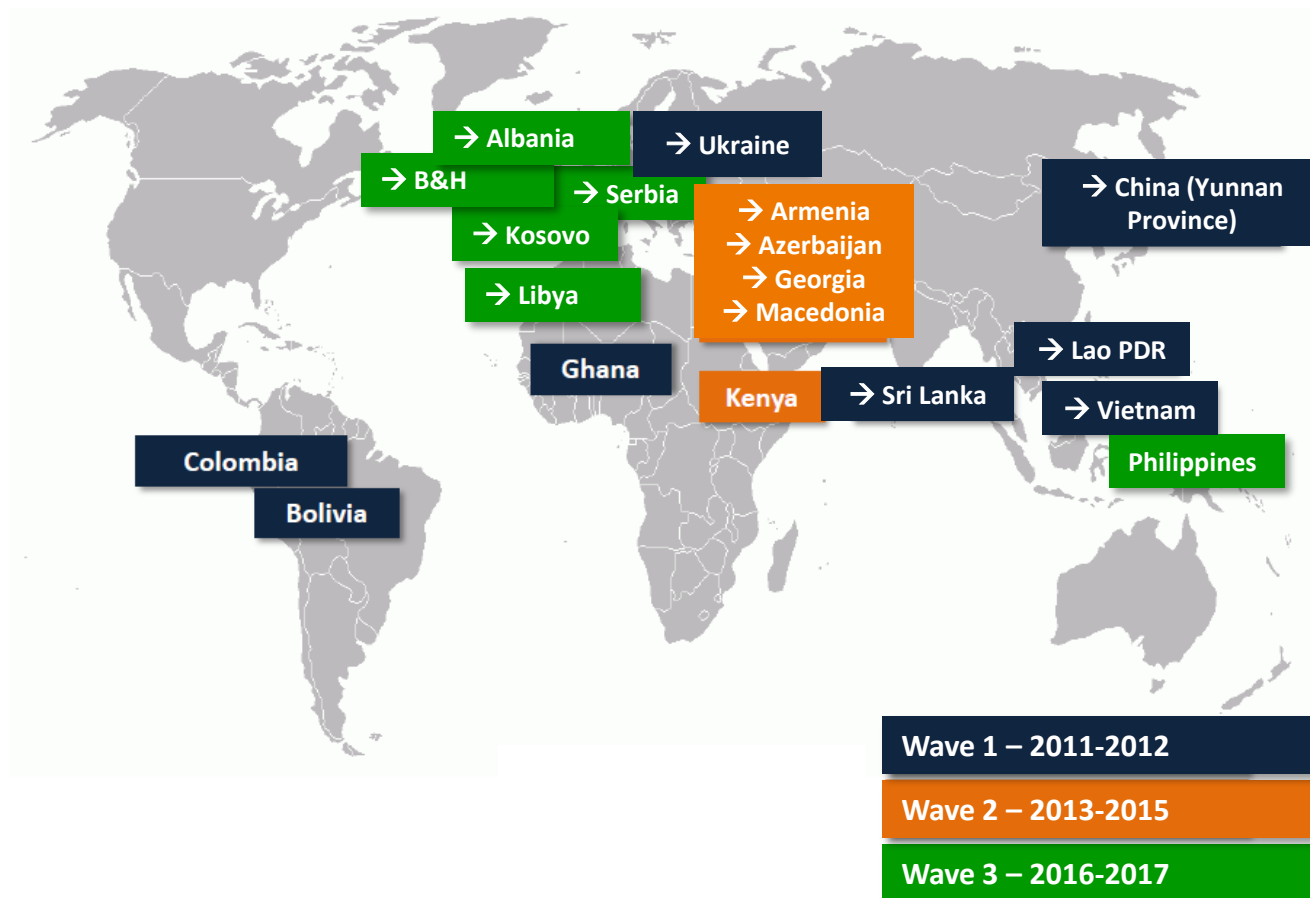
- Shed light on the skill profiles of the workforce in Moldova
- Identify the extent to which different skills of the current workforce are valued in the labor market
- Suggest areas for targeted skills policies & identify questions for further in-depth research

## Preliminary analysis aims to:

- Provide descriptive statistics and basic correlations
- Identify the impact of household and individuals characteristics on education and skills
- Test the association between education, skills, and labor market outcomes

# Where is STEP being implemented?

## 19 participating countries + BLISS in Bulgaria



→ Indicates that the country has an employer survey

# Moldova Skills Measurement Survey

## Supply of Skills → Survey of Individuals (Households)

**Coverage:** urban and rural areas in all regions of Moldova, except for Transnistria

**Target population:** adults aged 18-64 years (non-institutionalized population, except for individuals lacking mental capacity)

**Sample size:** 2070 individuals

**Fieldwork:** 13 October 2018 – 30 March 2019

**Response rate:** 33 %

### Structure:

Module 1 – Household information (selection of the primary respondent)

Module 2 – Education

Module 3 – Health and preferences

Module 4 – Non-cognitive skills

Module 5 – Employment




Module 6 – Skills at work

Module 7 – Language and family

[Module 8 – Interviewer impressions of modules 2-7]

Module 9 – Cognitive skills

# Skills measured

<b>Cognitive skills</b> 	<b>Use of foundational skills at work (self-assessed)</b>	<ul style="list-style-type: none"> <li>Reading</li> <li>Numeracy</li> <li>Languages</li> </ul>
	<b>Cognitive skills (tests)</b>	<ul style="list-style-type: none"> <li>Memory</li> <li>Reading, vocabulary</li> <li>Numeracy</li> </ul>
<b>Non-cognitive skills</b> 	<b>Personality &amp; behavior</b>	<ul style="list-style-type: none"> <li>Openness</li> <li>Conscientiousness</li> <li>Extraversion</li> <li>Agreeableness</li> <li>Neuroticism (Emotional stability)</li> <li>Grit</li> <li>Decision-making</li> </ul>
	<b>Risk preference</b>	<ul style="list-style-type: none"> <li>Willingness to take risks</li> </ul>
	<b>Social intelligence</b>	<ul style="list-style-type: none"> <li>Reading the mind in the eyes test</li> </ul>
<b>Job-relevant skills</b> 	<b>Job requirements &amp; learning times</b>	<ul style="list-style-type: none"> <li>Qualifications required for the job &amp; learning times</li> </ul>
	<b>Skills used at work</b>	<ul style="list-style-type: none"> <li>Computer use</li> <li>Interpersonal skills</li> <li>Learning and thinking</li> <li>Autonomy and repetitiveness</li> <li>Physical tasks</li> <li>Making presentations</li> <li>Supervising others</li> <li>Driving a vehicle</li> <li>Repairing equipment</li> <li>Operating heavy machinery</li> </ul>

Big Five  
(OCEAN)

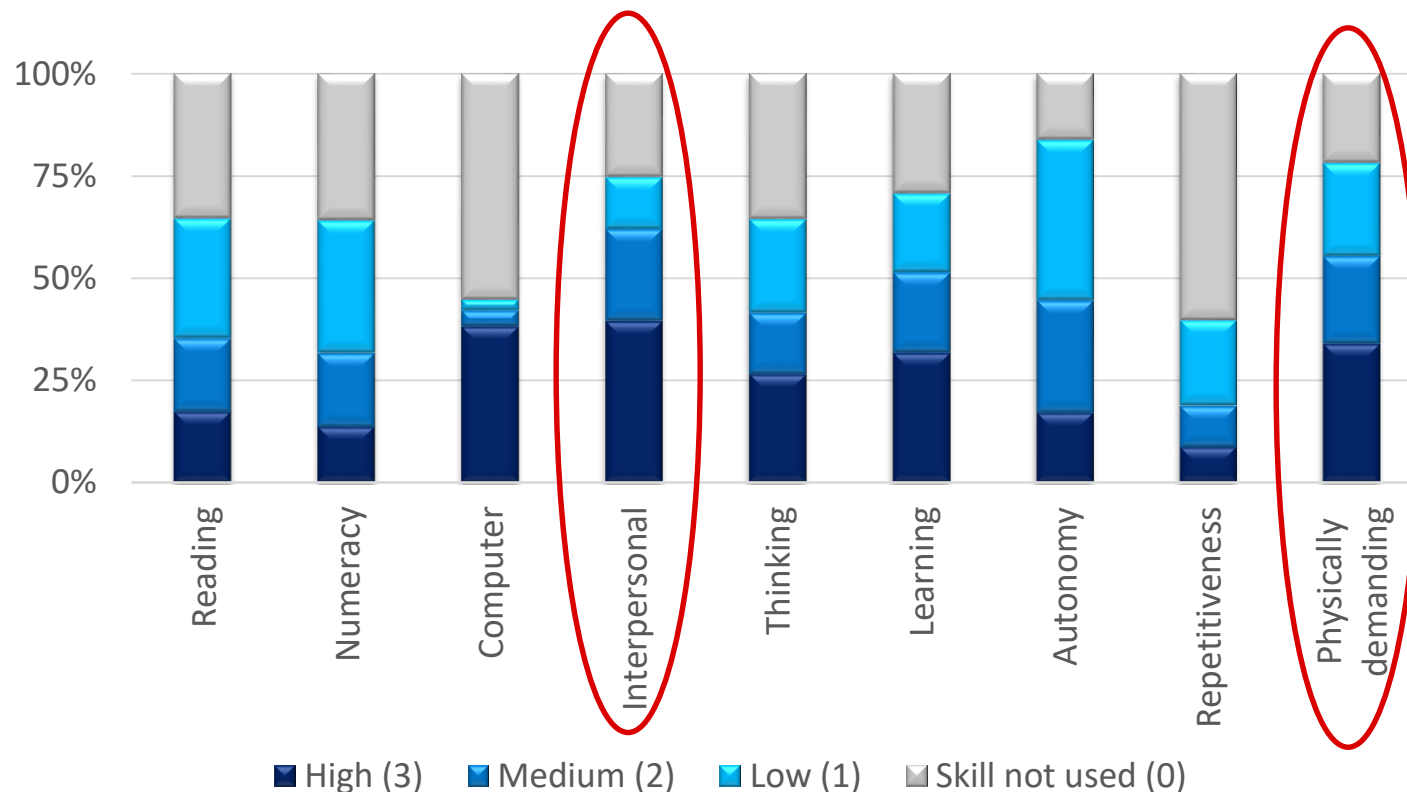


**Workers in public services  
and high-skilled occupations  
have different skill profiles in  
terms of skills used at work  
but not non-cognitive skills**



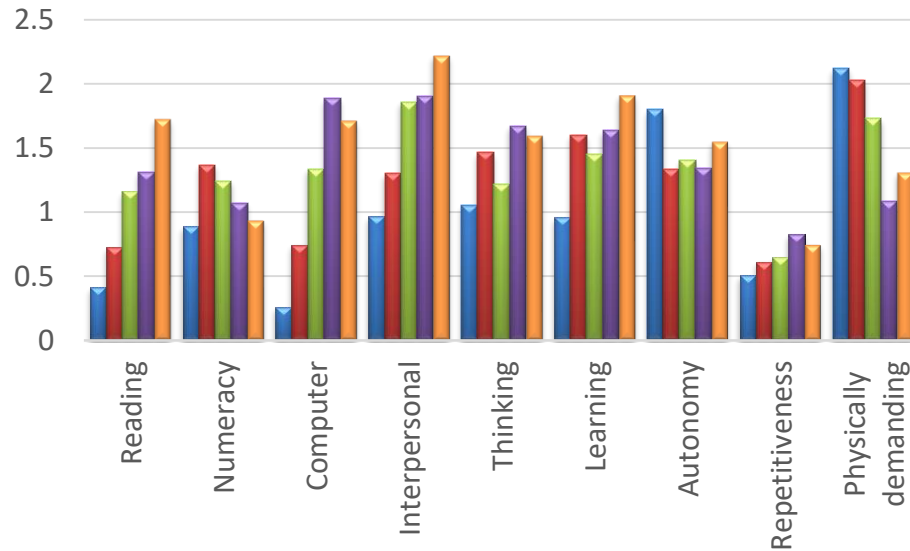
# Jobs in Moldova are physically demanding and often require interaction with people other than co-workers

## Intensity of using skills at work by employed adults (18-64 years)

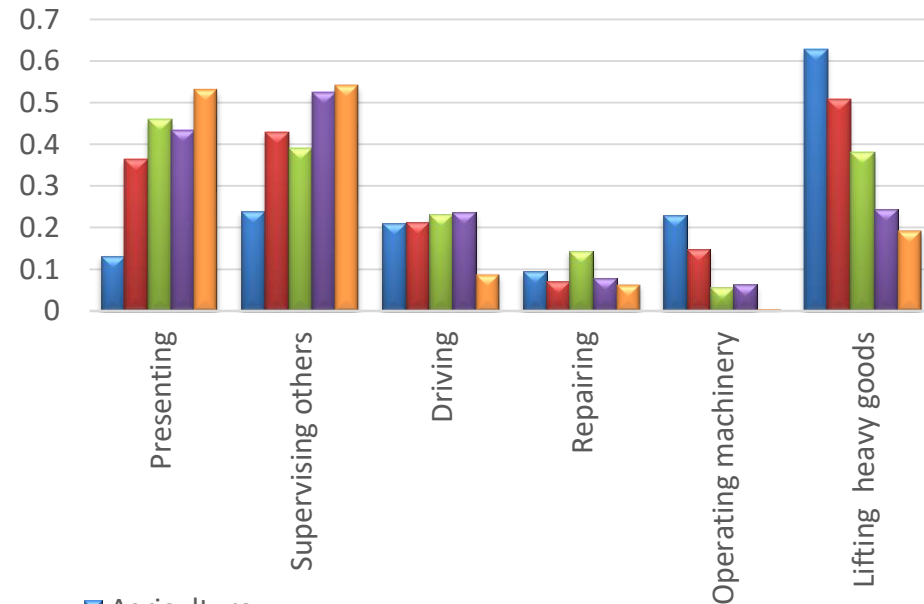


# Workers in public services use reading, interpersonal skills and learning at higher levels of intensity than workers in other sectors

## Mean score of using skills at work by sector



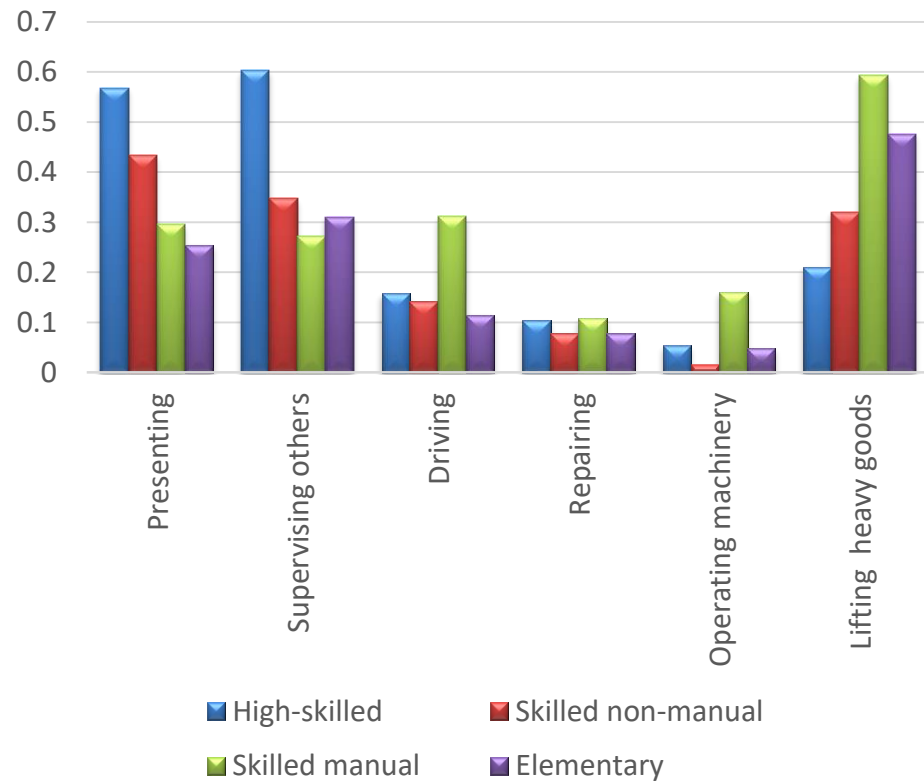
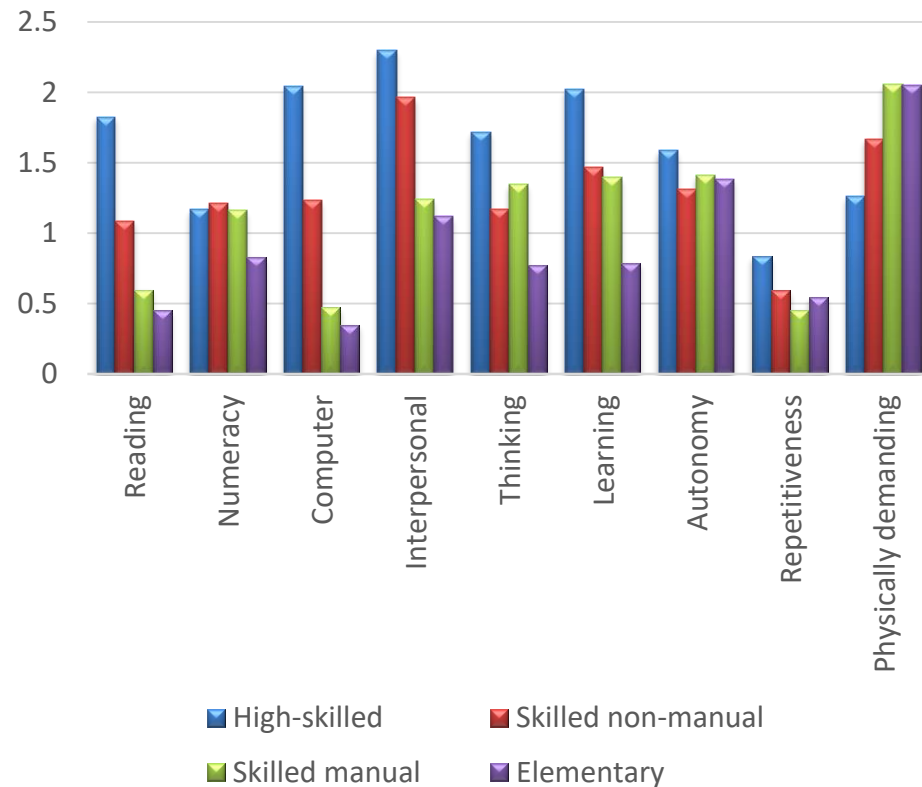
- Agriculture
- Industry & Construction
- Trade, Transport, Accommodation, Other services
- Business services
- Public services



- Agriculture
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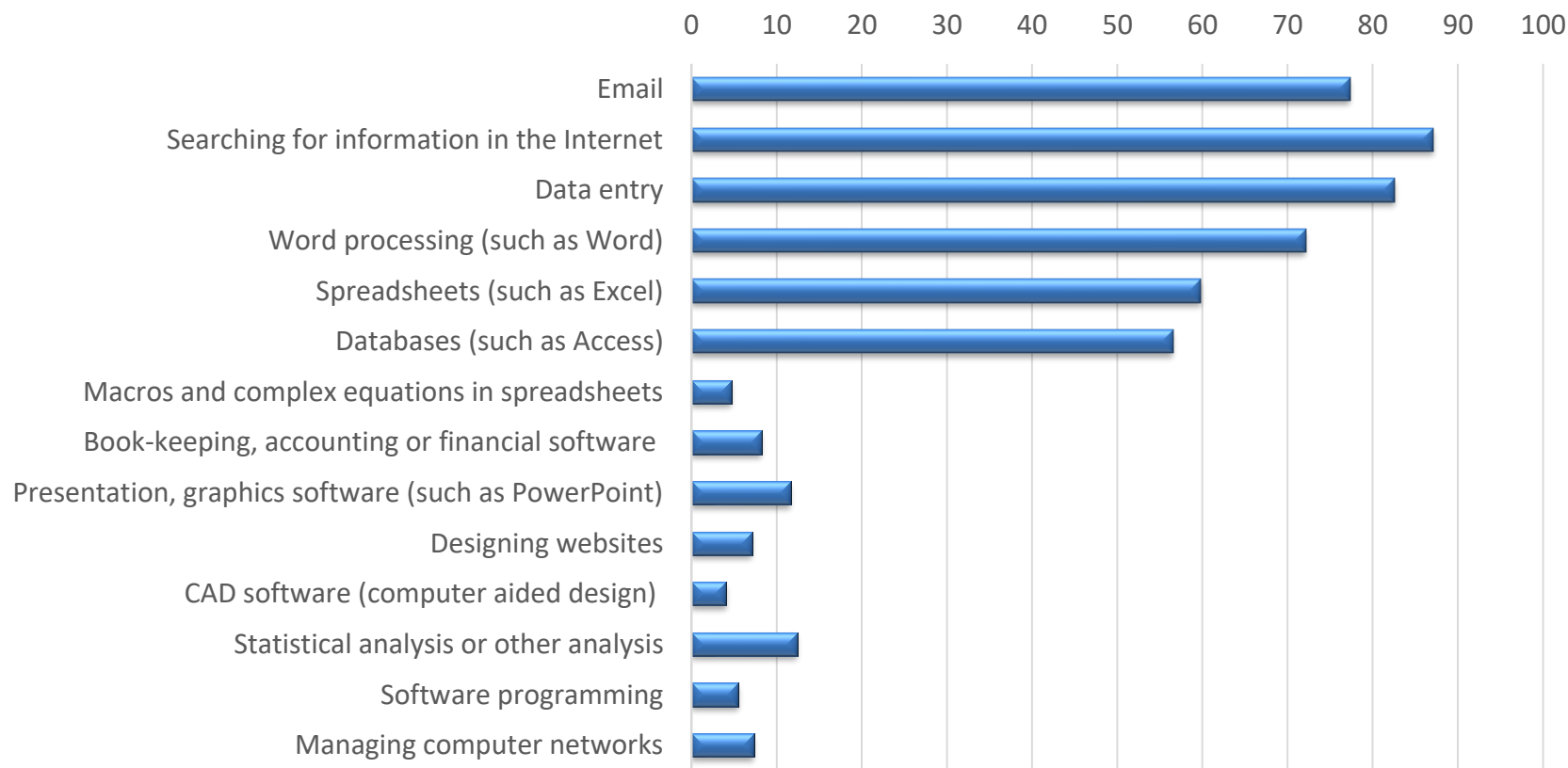
# Workers in high-skilled occupations use reading, computers, interpersonal skills, thinking and learning at higher levels of intensity

## Mean score of using skills at work by broad occupational group



# Digital skills used at work by Moldovan workers are not advanced

## Percentage of workers who reported about the use of computer at work by type of computer activity

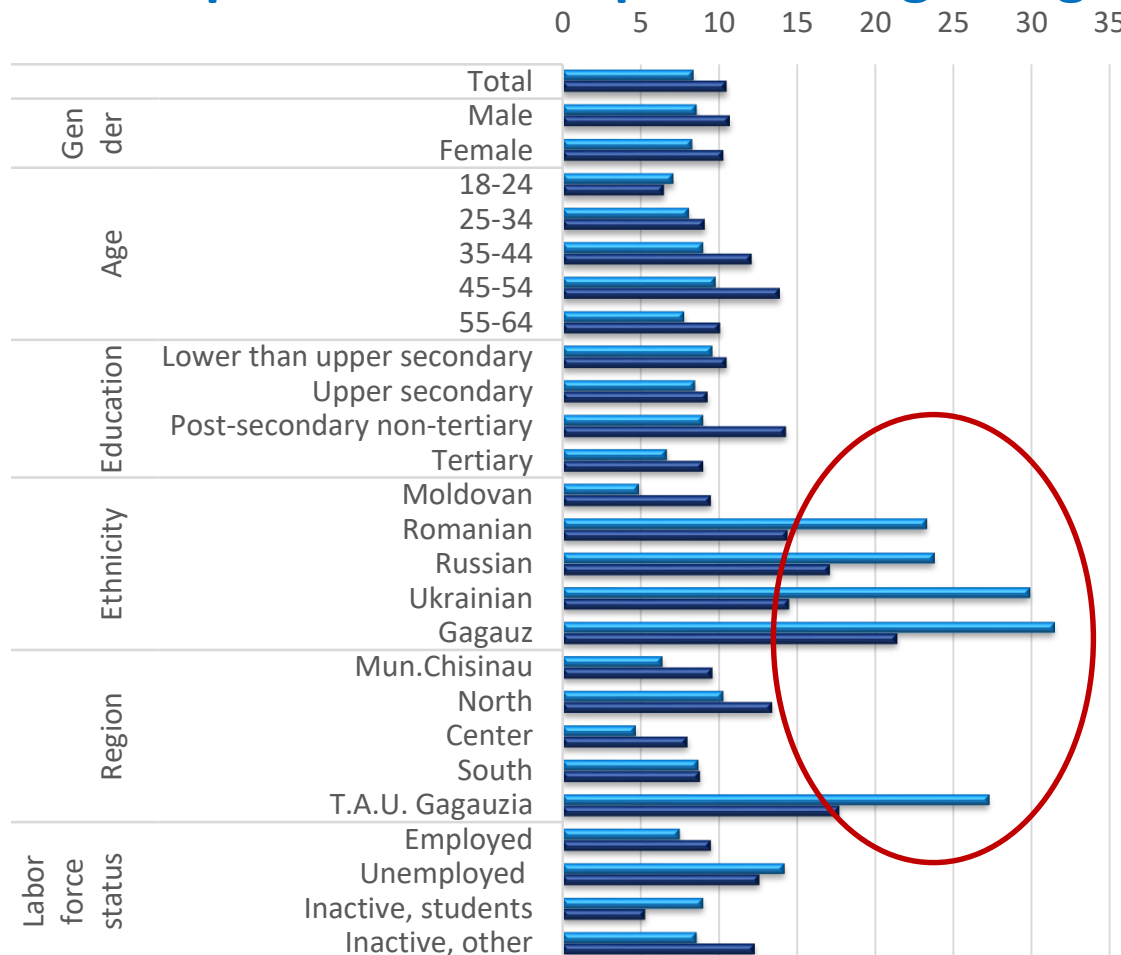




**Ethnic groups report that lack of writing and reading skills in Romanian and computer skills is an obstacle to their career advancement**

# The largest percentage of workers reporting problems is for Gagauz & Ukrainian people and residents of T.A.U. Gagauzia

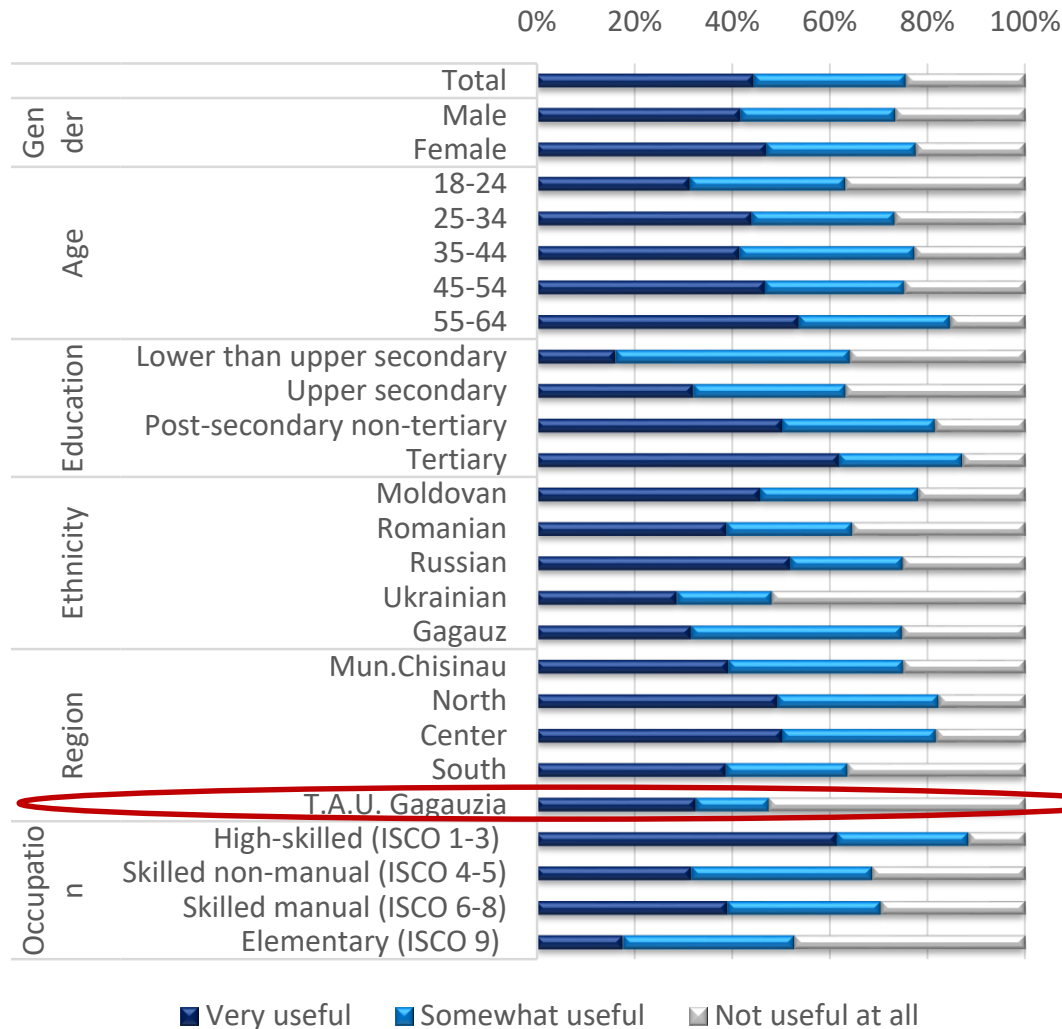
## Percentage of individuals reporting that the lack of literacy or computer skills has prevented getting a job/promotion/pay rise



- Over 30% of Gagauz people report about the lack of reading and writing skills in Romanian as an obstacle to getting a job/promotion /pay rise
- Over 20% of them also report about the lack of computer skills as an obstacle to getting a job/promotion/pay rise

# Workers living in T.A.U. Gagauzia are also the most critical about the usefulness of studies during formal education for performing current work

## Percentage of employed individuals (in the past 7 days or 12 months) reporting how useful their education is for performing work



- Overall, about 54% of adults who applied to a job in the past 5 years reported that an employer asked to certify/prove qualifications or work experience.
- Residents of South and Center need to prove their qualifications more often than residents of the Chisinau municipality.

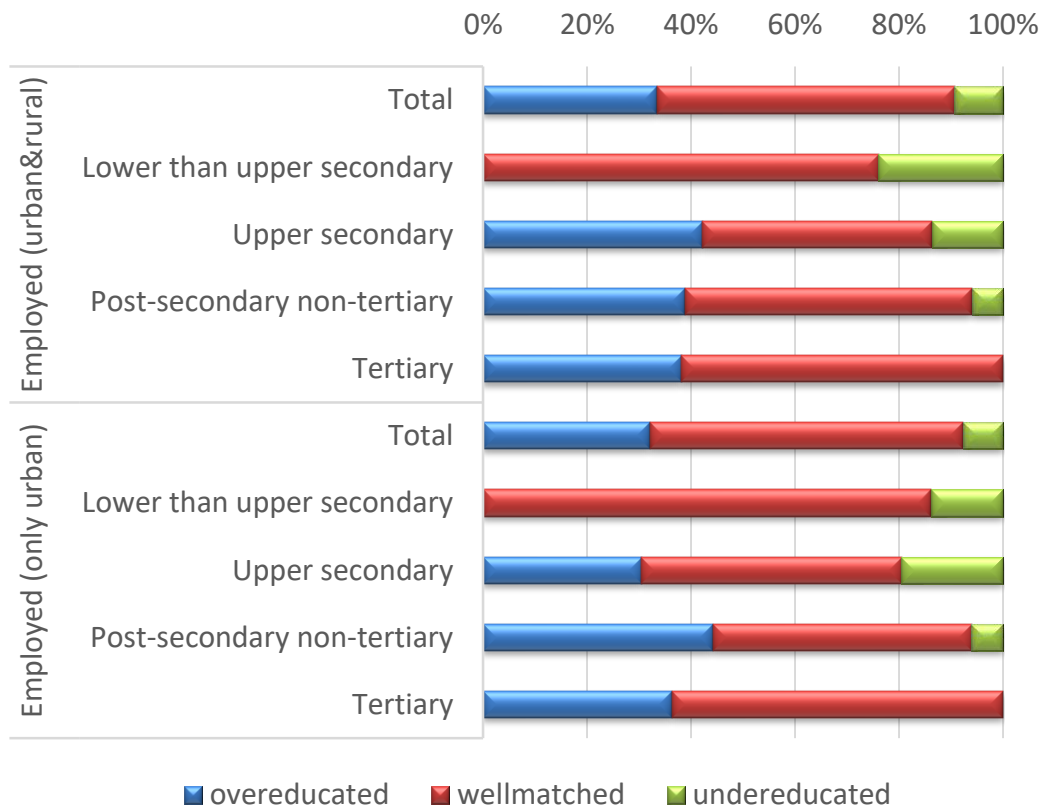


**Actual education of workers  
is often higher than the  
minimum level of education  
required for a job**



# Many workers with college or university diplomas are overeducated for their job

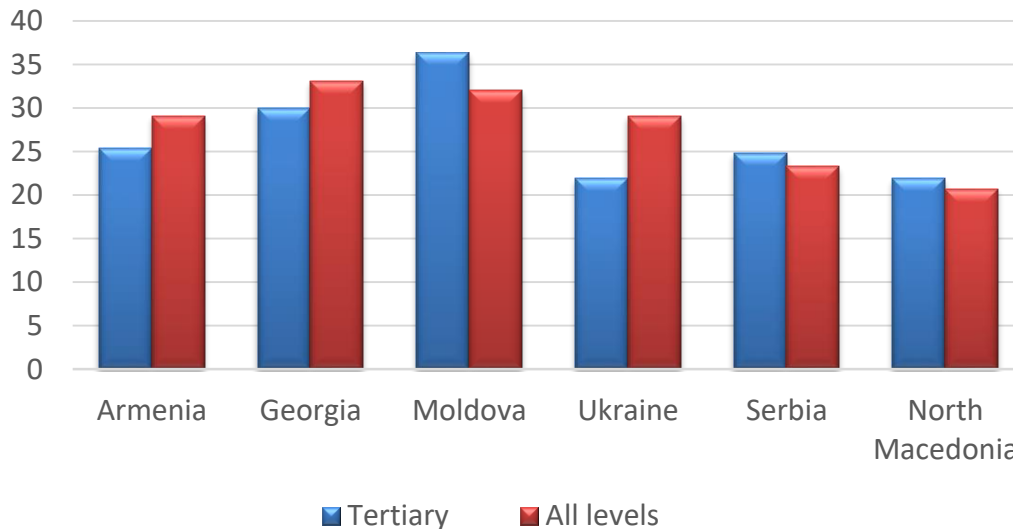
## Percentage of employed individuals (in the past 7 days or 12 months) by match between the level of actual and required education



- Roughly one in three workers (rural and urban) are overeducated for their jobs.
- Urban workers with a college degree (PSNT) have the highest incidence of overeducation (over 44 percent).

# Moldova has similar problems as other ECA countries

## Percentage of urban workers overeducated for their job

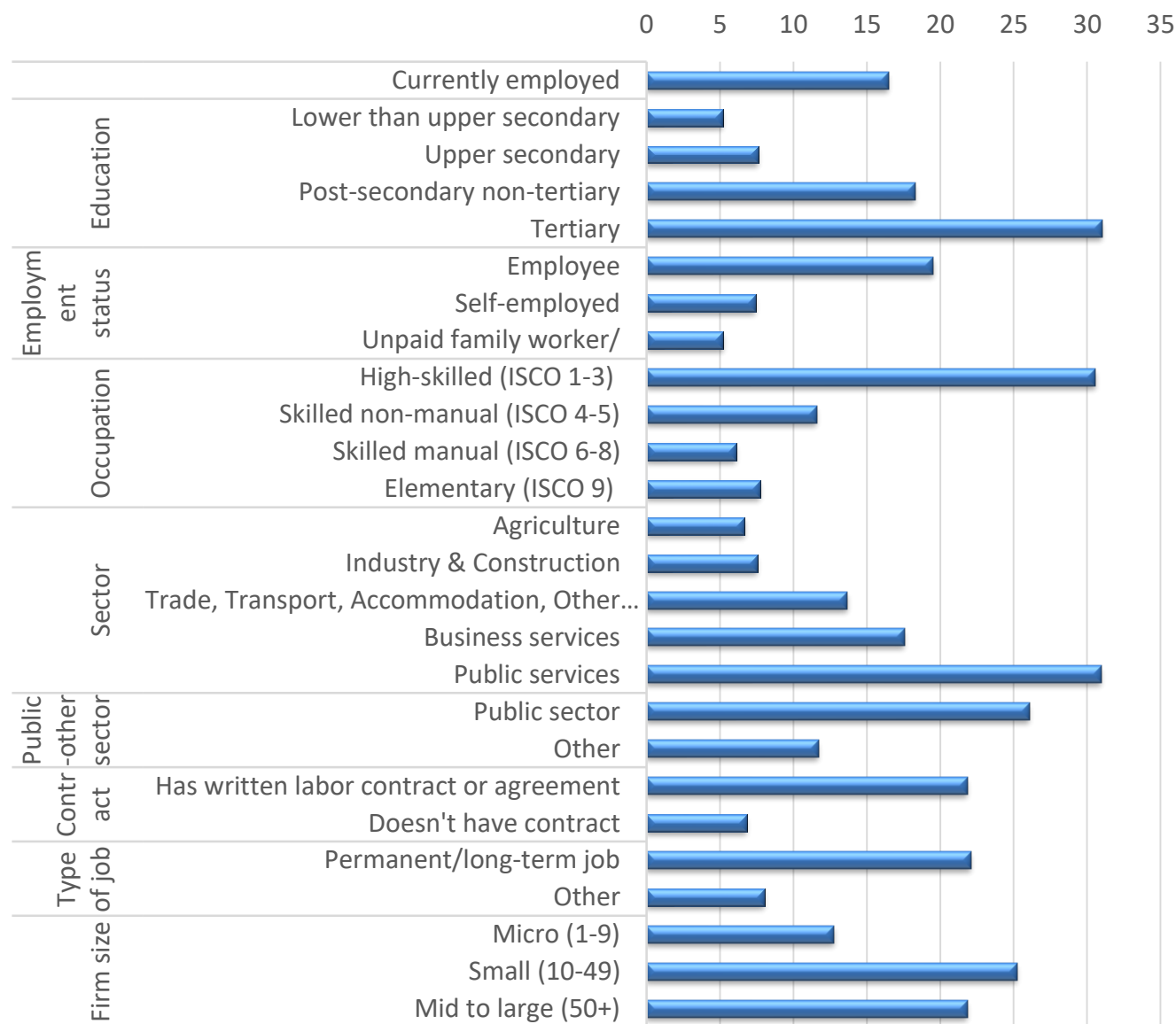


Moldova seems to be the leader in terms of the incidence of overeducation among urban workers with a university degree (Bachelor/ Master/PhD).



**Participation in training programs is not widespread, especially in the private sector**

# Training is more widespread among highly-educated professionals in public services



**Percentage of employed individuals reporting about participation in training in the past 12 months**

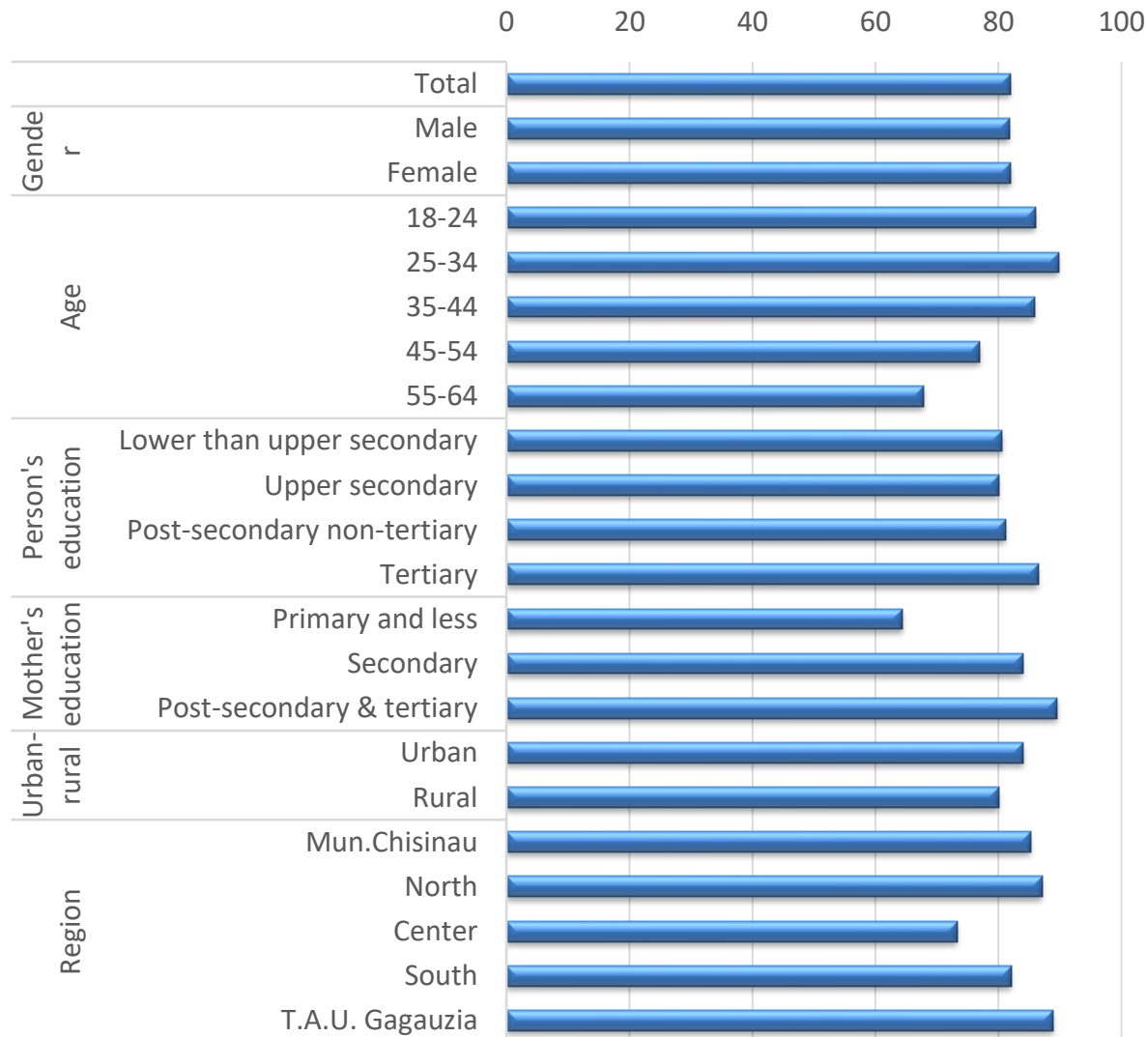
Overall, about 11% of the total population attended any type of training



**Participation in early  
childhood education is  
relatively high and is not  
correlated with skills of  
adults**

# Overall, over 80% of adults reported about participation in ECE before age 7

## Percentage of individuals reporting about attending preschool institution before age 7



# Participation in ECE and family background are correlated with some important skills used at work

VARIABLES	Reading at work	Numeracy at work	Computer at work	Interpersonal	Thinking	Learning	Autonomy	Physical tasks
Female	0.254	-0.301		0.226		0.306	0.170	-0.434
25-34 years	-0.331		-0.497	-0.289				0.356
35-44 years			-0.366					
45-54 years			-0.658			-0.489		
55-64 years			-0.691					
Attended Early Childhood Education	0.237		0.376	0.397		0.156		
Person's education, Upper secondary	0.675		0.442	0.305	0.355	0.317		
Person's education, Post-secondary non-tertiary	1.297	0.490	1.047	0.477	0.553	0.589		
Person's education, Tertiary	1.987	0.557	1.758	0.979	0.844	0.976	0.308	-1.019
Mother's education, secondary					-0.300	-0.227		
Mother's education, post-secondary & tertiary								
Mother's education, unspecified	-0.625	-0.360			-0.497	-0.661		
Middle SES at age 15								
High SES at age 15								
One shock at age 15		0.318			0.250			
Two and more shock at age 15							-0.220	
Moldovan (Ethnicity)						0.304		
Urban		-0.243						
North							0.296	
Center				0.483				
South					-0.390	-0.494	0.340	
T.A.U. Gagauzia		-0.558			-0.895	-0.875		
N of observations	819	816	820	818	811	816	813	819

# Individual characteristics are more important factors of non-cognitive skills than participation in ECE or family background

Relevance ☐

Data & methodology ☐

**Findings** ☒

Conclusions ☐

VARIABLES	Openness	Conscientiousness	Extraversion	Agreeableness	Emotional stability	Grit	Decision making
Female		0.071		0.054	-0.265	0.093	0.096
25-34 years	-0.072	0.095			-0.075		
35-44 years	-0.110						
45-54 years	-0.120						
55-64 years	-0.116	0.093		0.136			
Attended Early Childhood Education							
Person's education, Upper secondary	0.057	0.001	0.109	0.076		0.082	0.093
Person's education, Post-secondary non-tertiary	0.104	0.098	0.141	0.103		0.136	0.150
Person's education, Tertiary	0.148	0.088	0.168	0.152	0.092	0.102	0.163
Mother's education, secondary							
Mother's education, post-secondary & tertiary					0.095		0.115
Mother's education, unspecified	-0.205						
Middle SES at age 15							
High SES at age 15		0.064	0.106				
One shock at age 15							
Two and more shock at age 15		-0.111			-0.141		
Moldovan (Ethnicity)			-0.128				
Urban					0.058		
North		0.080					
Center							
South		0.089		0.085	-0.110	0.152	
T.A.U. Gagauzia				0.105			
Observations	2,048	2,048	2,048	2,048	2,048	2,048	2,046
R-squared	0.047	0.036	0.037	0.046	0.085	0.043	0.032

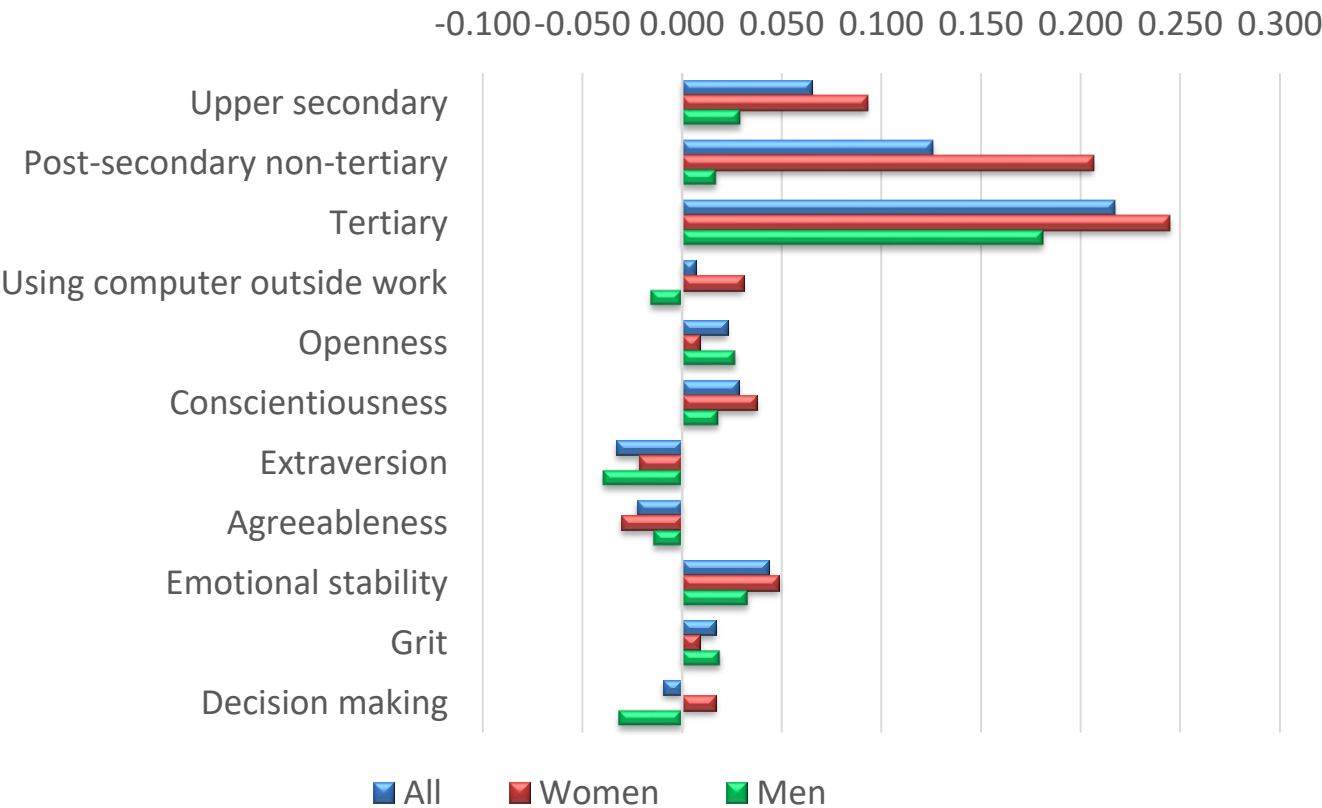




**Only some non-cognitive skills  
are significantly associated  
with higher probability of  
labor force participation and  
employment**

# The labor force participation of both men and women is significantly associated with educational attainment

## Marginal effects of educational attainment, computer use and non-cognitive skills on the probability of labor force participation

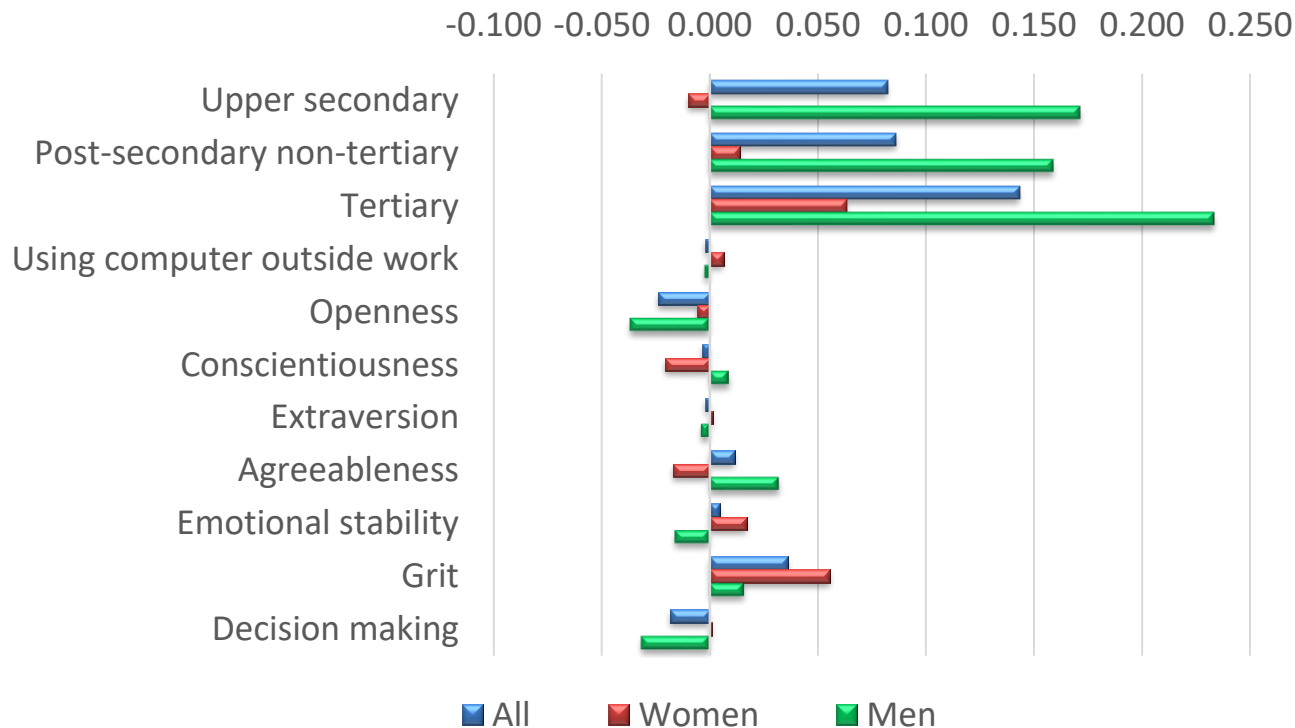


After controlling for education, only conscientiousness for women and emotional stability for total population is significantly associated with higher LFP

Notes: The sample excludes current students below 25 years. The figure shows marginal effects from a probit model which also controls for age and age squared, has a spouse, has at least one child under 6 years, ethnicity, mother's education, urban-rural, and macroregion. Estimated with weights and standard errors clustered at PSU.

# Education is important for men's employability whereas grit is a significant determinant of women's employability

## Marginal effects of educational attainment, computer use and non-cognitive skills on the probability of employment (among active adults)



After controlling for education, only grit for all active adults and for women is a significant determinant of the probability of employment

Notes: The sample excludes current students below 25 years. The figure shows marginal effects from a probit model which also controls for age and age squared, has a spouse, has at least one child under 6 years, ethnicity, mother's education, urban-rural, and macroregion. Estimated with weights and standard errors clustered at PSU.



**Some non-cognitive skills  
matter for earnings of men  
while women get an earnings  
premium only for a higher level  
of education**

# Grittier men seem to get on average lower earnings than their less gritty peers

## OLS estimates of hourly earning of employees

VARIABLES	All (1)	All (2)	Women (1)	Women (2)	Men (1)	Men (2)
Upper secondary	0.008	0.018	<b>0.320***</b>	<b>0.406***</b>	-0.245	-0.291
Post-secondary non-tertiary	0.145	0.121	<b>0.539***</b>	<b>0.602***</b>	-0.309	-0.343
Tertiary	<b>0.478***</b>	<b>0.435***</b>	<b>0.913***</b>	<b>0.916***</b>	0.073	0.054
Openness	<b>0.072*</b>	0.052	-0.024	-0.033	<b>0.212**</b>	0.168
Conscientiousness	0.044	0.042	-0.013	-0.009	0.130	<b>0.142**</b>
Extraversion	0.015	0.042	-0.041	-0.042	0.091	0.156
Agreeableness	<b>-0.067*</b>	-0.049	0.028	0.033	<b>-0.156*</b>	-0.135
Emotional stability	0.018	0.014	0.067	0.066	-0.032	-0.084
Grit	<b>-0.087**</b>	<b>-0.121***</b>	-0.052	-0.059	<b>-0.189***</b>	<b>-0.276***</b>
Decision making	0.066	<b>0.076**</b>	0.067	0.051	0.067	<b>0.144**</b>
Job characteristics	No	Yes	No	Yes	No	Yes
Observations	638	597	420	395	218	202
R-squared	0.217	0.308	0.313	0.381	0.216	0.397

Notes: The sample excludes current students below 25 years. The model also controls for age and age squared, has a spouse, has at least one child under 6 years, ethnicity, mother's education, urban-rural, and macroregion. Job characteristics include broad sector, broad occupation, public sector dummy and firm size. Estimated with weights and standard errors clustered at PSU.

# Summary of main findings

1. Workers in public services and high-skilled occupations have different skill profiles in terms of skills used at work but not non-cognitive skills
2. Ethnic groups report that lack of writing and reading skills in Romanian and computer skills is an obstacle to their career advancement
3. Actual education of workers is often higher than the minimum level of education required for a job
4. Participation in training programs is not widespread, especially in the private sector
5. Participation in early childhood education is relatively high and is not correlated with skills of adults
6. Only some non-cognitive skills are significantly associated with higher probability of labor force participation and employment
7. Some non-cognitive skills matter for earnings of men while women get an earnings premium only for a higher level of education



**Education is very important whereas the effects of skills are ambiguous.  
Further and deeper research is required**