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No Future, No Training? Explaining Cross-national Variation in the Effect of Job Tasks On Training Participation

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Online Appendix for “No Future, No Training? Explaining cross-national variation in the effect of job tasks on training participation”

Martin Ehlert

	Factor1
Skill use work - Literacy - Read diagrams maps or schematics	.6000276
Skill use work - Literacy - Write reports	.6076515
Skill use work - Problem solving - Complex problems	.7058553
Skill use work - How often - Influencing people	.7517783
Skill use work - How often - Negotiating with people	.7623874

Table 1: Factor loadings for the principal components analysis for abstract tasks. Source: PIAAC, own calculations.

	Factor1
Current work - Work flexibility - Sequence of tasks	.8520544
Current work - Work flexibility - How to do the work	.8590716
Current work - Work flexibility - Speed of work	.8138378
Current work - Work flexibility - Working hours	.6919284

Table 2: Factor loadings for the principal components analysis for routine tasks. Source: PIAAC, own calculations.

	Model 1	Model 2	Model 3	Model 4
Routine tasks	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)
Tracking	-0.00 (0.06)		-0.06 (0.08)	-0.05 (0.08)
Rout. * Tracking	-0.01 (0.02)		-0.01 (0.03)	-0.01 (0.02)
Voc. Orientation		0.06 (0.07)	0.11 (0.09)	0.09 (0.09)
Rout. * Voc. Orient.		-0.02 (0.02)	-0.01 (0.03)	-0.01 (0.02)
R&D Expenditure				0.07 (0.05)
Abst. * R&D Expenditure				-0.02 (0.01)
Abstract tasks	0.38*** (0.02)	0.38*** (0.02)	0.37*** (0.02)	0.37*** (0.02)
Manual accuracy tasks	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
Manual tasks	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
Computer use	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)
Age (Ref.: 25-29)				
30-34	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
35-39	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)
40-44	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
45-49	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
50-54	-0.19*** (0.05)	-0.19*** (0.05)	-0.19** (0.05)	-0.19** (0.05)
55-59	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)
60-65	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)
Education (Ref.: ISCED 0-2)				
ISCED 3a	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)
ISCED 3b	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)
ISCED 5long/6	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)
Professionals	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)

	Model 1	Model 2	Model 3	Model 4
Occupation (ISCO, Ref.: Managers)				
Technicians and ass. prof.	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
Clerks	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)
Service and sales	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)
Skilled agricultural and fishery	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)
Craft and related trades	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)
Machine op. and assemblers	-0.15** (0.05)	-0.15** (0.05)	-0.16** (0.05)	-0.16** (0.05)
Elementary occupations	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)
Literacy	0.06 (0.03)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)
Numeracy	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)
Gender: Men (Ref.: Women)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
11-50 people	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)
Firm size (Ref.: 1-10 people)				
51-250 people	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)
More than 1000 people	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)
Public Sector	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)
Mining	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)
Sector (Ref.: Agriculture)				
Manufacturing	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)
Electricity/Water supply	0.43*** (0.11)	0.43*** (0.11)	0.43*** (0.11)	0.43*** (0.11)
Construction	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)
Commerce	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)
Transport	0.23* (0.09)	0.23* (0.09)	0.23* (0.09)	0.23* (0.09)
Services	0.29** (0.08)	0.29** (0.08)	0.29** (0.08)	0.29** (0.08)

	Model 1	Model 2	Model 3	Model 4
Native-born and foreign-language	-0.03 (0.05)	-0.03 (0.05)	-0.03 (0.05)	-0.03 (0.05)
Migration status (Ref.:Native)				
Foreign-born and native-language	-0.10 ⁺ (0.05)	-0.10 ⁺ (0.05)	-0.10 ⁺ (0.05)	-0.10 ⁺ (0.05)
Foreign-born and foreign-language	-0.20*** (0.04)	-0.20*** (0.04)	-0.19*** (0.04)	-0.20*** (0.04)
Fulltime employed	0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.03)
Work experience	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)
Employer tenure	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Num. obs.	66891	66891	66891	66891
Num. groups:	24	24	24	24

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Table 3: Mixed effects logistic regression model of training participation with cross-level interactions between routine tasks and indicators for educational systems. Source: PIAAC, own calculations.

	Model 1	Model 2	Model 3	Model 4	Model 5
Routine tasks	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.01 (0.01)	-0.01 (0.01)
EPL	-0.06 (0.07)			-0.18* (0.08)	-0.19* (0.09)
Rout. * EPL	-0.04* (0.02)			-0.06* (0.02)	-0.07** (0.02)
Col. bargaining		0.10 (0.06)		0.18+ (0.09)	0.20+ (0.10)
Rout. * Col. barg.		-0.00 (0.02)		0.01 (0.03)	0.03 (0.02)
ALMP training			0.09 (0.06)	0.00 (0.07)	-0.01 (0.08)
Abst. * ALMP			0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
R&D Expenditure					-0.00 (0.05)
Abst. * R&D Exp.					-0.04** (0.01)
Abstract tasks	0.37*** (0.02)	0.38*** (0.02)	0.38*** (0.02)	0.37*** (0.02)	0.37*** (0.02)
Manual accuracy tasks	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
Manual tasks	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
Computer use	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)
Age (Ref.: 25-29)					
30-34	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
35-39	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)
40-44	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
45-49	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
50-54	-0.19*** (0.05)	-0.19*** (0.05)	-0.19*** (0.05)	-0.19** (0.05)	-0.19** (0.05)
55-59	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)
60-65	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)
Education (Ref.: ISCED 0-2)					
ISCED 3a	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)
ISCED 3b	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)

	Model 1	Model 2	Model 3	Model 4	Model 5
ISCED 5long/6	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)
Professionals	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)
Occupation (ISCO, Ref.: Managers)					
Technicians and ass. prof.	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
Clerks	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)
Service and sales	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)
Skilled agricultural and fishery	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)
Craft and related trades	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)
Machine op. and assemblers	-0.16** (0.05)	-0.16** (0.05)	-0.16** (0.05)	-0.15** (0.05)	-0.15** (0.05)
Elementary occupations	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)	-0.50*** (0.05)
Literacy	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)
Numeracy	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)
Gender: Men (Ref.: Women)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
11-50 people	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)
Firm size (Ref.: 1-10 people)					
51-250 people	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)
More than 1000 people	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)
Public Sector	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)
Mining	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)	0.51** (0.13)
Sector (Ref.: Agriculture)					
Manufacturing	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)
Electricity/Water supply	0.43*** (0.11)	0.43*** (0.11)	0.43*** (0.11)	0.43*** (0.11)	0.44*** (0.11)
Construction	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)
Commerce	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)

	Model 1	Model 2	Model 3	Model 4	Model 5
Transport	0.23*	0.23*	0.23*	0.23*	0.23*
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Services	0.29**	0.29**	0.29**	0.29**	0.29**
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Native-born and foreign-language	-0.03	-0.03	-0.03	-0.03	-0.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Migration status (Ref.:Native)					
Foreign-born and native-language	-0.10 ⁺	-0.10 ⁺	-0.10 ⁺	-0.10 ⁺	-0.10 ⁺
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Foreign-born and foreign-language	-0.20***	-0.20***	-0.20***	-0.20***	-0.20***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Fulltime employed	0.25***	0.25***	0.25***	0.25***	0.25***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Work experience	0.10***	0.10***	0.10***	0.10***	0.10***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Employer tenure	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Num. obs.	66891	66891	66891	66891	66891
Num. groups:	24	24	24	24	24

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Table 4: Mixed effects logistic regression model of training participation with cross-level interactions between routine tasks and indicators for labor market institutions. Source: PIAAC, own calculations.

	Model 1	Model 2	Model 3	Model 4
Abstract tasks	0.37*** (0.02)	0.38*** (0.02)	0.38*** (0.02)	0.38*** (0.01)
Tracking	0.03 (0.05)		-0.03 (0.07)	-0.03 (0.06)
Abst. * Tracking	0.01 (0.02)		0.04 ⁺ (0.02)	0.04* (0.02)
Voc. Orientation		0.09 (0.06)	0.11 (0.08)	0.10 (0.07)
Abst. * Voc. Orient.		-0.02 (0.02)	-0.05* (0.02)	-0.05* (0.02)
R&D Expenditure				0.12* (0.04)
Abst. * R&D Exp.				0.04** (0.01)
Routine Tasks	-0.02 (0.02)	-0.03 (0.02)	-0.03 (0.02)	-0.03 (0.02)
Manual accuracy tasks	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
Manual tasks	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
Computer use	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)
Age (Ref.: 25-29)				
30-34	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
35-39	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)
40-44	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
45-49	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
50-54	-0.19*** (0.05)	-0.19*** (0.05)	-0.19** (0.05)	-0.19** (0.05)
55-59	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)
60-65	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)
Education (Ref.: ISCED 0-2)				
ISCED 3a	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)
ISCED 3b	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)
ISCED 5long/6	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)
Professionals	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)

	Model 1	Model 2	Model 3	Model 4
Occupation (ISCO, Ref.: Managers)				
Technicians and ass. prof.	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
Clerks	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)
Service and sales	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)
Skilled agricultural and fishery	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)
Craft and related trades	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)
Machine op. and assemblers	-0.15** (0.05)	-0.16** (0.05)	-0.16** (0.05)	-0.16** (0.05)
Elementary occupations	-0.50*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)
Literacy	0.06 (0.03)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)
Numeracy	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)
Gender: Men (Ref.: Women)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
11-50 people	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)
Firm size (Ref.: 1-10 people)				
51-250 people	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)
More than 1000 people	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)
Public Sector	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)
Mining	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)
Sector (Ref.: Agriculture)				
Manufacturing	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)
Electricity/Water supply	0.43*** (0.11)	0.43*** (0.11)	0.43*** (0.11)	0.44*** (0.11)
Construction	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)
Commerce	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)
Transport	0.23* (0.09)	0.23* (0.09)	0.23* (0.09)	0.23* (0.09)
Services	0.29** (0.08)	0.29** (0.08)	0.29** (0.08)	0.29** (0.08)

	Model 1	Model 2	Model 3	Model 4
Native-born and foreign-language	-0.03 (0.05)	-0.03 (0.05)	-0.03 (0.05)	-0.03 (0.05)
Migration status (Ref.:Native)				
Foreign-born and native-language	-0.10 ⁺ (0.05)	-0.10 ⁺ (0.05)	-0.10 ⁺ (0.05)	-0.10 ⁺ (0.05)
Foreign-born and foreign-language	-0.20*** (0.04)	-0.19*** (0.04)	-0.20*** (0.04)	-0.20*** (0.04)
Fulltime employed	0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.03)
Work experience	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)
Employer tenure	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Num. obs.	66891	66891	66891	66891
Num. groups:	24	24	24	24

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Table 5: Mixed effects logistic regression model of training participation with cross-level interactions between abstract tasks and indicators for educational systems. Source: PIAAC, own calculations.

	Model 1	Model 2	Model 3	Model 4	Model 5
Abstract tasks	0.38*** (0.02)	0.38*** (0.02)	0.38*** (0.02)	0.38*** (0.02)	0.37*** (0.01)
EPL	0.03 (0.06)			-0.09 (0.08)	-0.03 (0.07)
Abst. * EPL	-0.01 (0.02)			0.01 (0.02)	0.03+ (0.02)
Col. bargaining		0.09+ (0.05)		0.15 (0.09)	0.09 (0.08)
Abst. * Col. barg.		-0.02 (0.02)		-0.03 (0.03)	-0.05+ (0.02)
ALMP training			0.06 (0.05)	-0.02 (0.07)	-0.03 (0.06)
Abst. * ALMP			-0.01 (0.02)	0.01 (0.02)	-0.00 (0.02)
R&D Expenditure					0.12* (0.04)
Abst. * R&D Exp.					0.05** (0.01)
Routine Tasks	-0.03 (0.02)	-0.03 (0.02)	-0.03 (0.02)	-0.02 (0.02)	-0.02 (0.02)
Manual accuracy tasks	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
Manual tasks	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)	0.03* (0.01)
Computer use	0.48*** (0.03)	0.48*** (0.03)	0.48*** (0.03)	0.47*** (0.03)	0.48*** (0.03)
Age (Ref.: 25-29)					
30-34	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
35-39	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)	-0.08* (0.04)
40-44	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.06 (0.04)
45-49	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
50-54	-0.19*** (0.05)	-0.19*** (0.05)	-0.19*** (0.05)	-0.19** (0.05)	-0.20** (0.05)
55-59	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)	-0.34*** (0.06)
60-65	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)	-0.60*** (0.07)
Education (Ref.: ISCED 0-2)					
ISCED 3a	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)	0.15*** (0.03)
ISCED 3b	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)	0.24*** (0.03)

	Model 1	Model 2	Model 3	Model 4	Model 5
ISCED 5long/6	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)	0.36*** (0.04)
Professionals	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)	0.06 (0.04)
Occupation (ISCO, Ref.: Managers)					
Technicians and ass. prof.	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)
Clerks	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)	-0.40*** (0.04)
Service and sales	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)	-0.17*** (0.04)
Skilled agricultural and fishery	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)	-0.30* (0.11)
Craft and related trades	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)	-0.23*** (0.05)
Machine op. and assemblers	-0.16** (0.05)	-0.16** (0.05)	-0.16** (0.05)	-0.16** (0.05)	-0.16** (0.05)
Elementary occupations	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)	-0.51*** (0.05)
Literacy	0.06 (0.03)	0.06 (0.04)	0.06 (0.03)	0.06 (0.04)	0.06 (0.04)
Numeracy	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)
Gender: Men (Ref.: Women)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
11-50 people	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)	0.35*** (0.02)
Firm size (Ref.: 1-10 people)					
51-250 people	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)	0.55*** (0.03)
More than 1000 people	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)	0.69*** (0.04)
Public Sector	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)	0.33*** (0.05)
Mining	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)	0.51*** (0.13)
Sector (Ref.: Agriculture)					
Manufacturing	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)	-0.05 (0.09)
Electricity/Water supply	0.43*** (0.11)	0.43*** (0.11)	0.43*** (0.11)	0.43*** (0.11)	0.44*** (0.11)
Construction	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)
Commerce	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)	-0.02 (0.09)

	Model 1	Model 2	Model 3	Model 4	Model 5
Transport	0.23*	0.23*	0.23*	0.23*	0.24*
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Services	0.29**	0.29**	0.29**	0.29**	0.29**
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Native-born and foreign-language	-0.03	-0.03	-0.03	-0.03	-0.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Migration status (Ref.:Native)					
Foreign-born and native-language	-0.10 ⁺	-0.10 ⁺	-0.10 ⁺	-0.10 ⁺	-0.10 ⁺
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Foreign-born and foreign-language	-0.20***	-0.20***	-0.20***	-0.20***	-0.20***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Fulltime employed	0.25***	0.25***	0.25***	0.25***	0.25***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Work experience	0.10***	0.10***	0.10***	0.10***	0.10***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Employer tenure	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Num. obs.	66891	66891	66891	66891	66891
Num. groups:	24	24	24	24	24

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Table 6: Mixed effects logistic regression model of training participation with cross-level interactions between abstract tasks and indicators for labor market institutions. Source: PIAAC, own calculations.