

## Online appendix

Figure A1 Measuring no interest in CVET

<p><b>A. Face Validity</b></p> <p>PIAAC variable <b>B_26a</b>, has face validity in measuring a lack of interest in CVET because it asks if they wanted to engage in “any” (or “more” in case they participated in others) learning activities in a very broad sense (for qualifications or in general). If they did not want to, that is literally a lack of interest.</p> <p>The problem is that there are likely to be persons who had all of their interests in training/learning fulfilled. Therefore, they answer ‘no’ to this question, but are/were interested in training.</p> <p>Question [verbatim English]:</p> <p><i>“In the last 12 months, were there any [more] learning activities you wanted to take part in but did not? Include both learning activities that lead to formal qualifications and other organised learning activities.”</i></p>	<p><b>B. Lack of Diminishing Interest</b></p> <p>Respondents who took more courses reported more interest, with a saturation point appearing after 2 or more courses. There is not a clear pattern of ‘interest fulfilment’.</p> <table border="1"> <thead> <tr> <th>Number of CVET courses last 12 months</th> <th>% Interested in more courses</th> </tr> </thead> <tbody> <tr> <td>none</td> <td>20.6%</td> </tr> <tr> <td>1</td> <td>29.4%</td> </tr> <tr> <td>2</td> <td>39.9%</td> </tr> <tr> <td>3</td> <td>40.8%</td> </tr> <tr> <td>4</td> <td>40.7%</td> </tr> <tr> <td>5</td> <td>46.7%</td> </tr> <tr> <td>6 or more</td> <td>45.6%</td> </tr> </tbody> </table>	Number of CVET courses last 12 months	% Interested in more courses	none	20.6%	1	29.4%	2	39.9%	3	40.8%	4	40.7%	5	46.7%	6 or more	45.6%																					
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<p><b>C. Lack of Interest Reflects Dislike of Learning</b></p> <p>Those who are not interested in further education and training should be people who are less likely to enjoy learning in general. PIAAC variable <b>I_Q04d</b> asks respondents to relate to the following statement [verbatim English]:</p> <p><b><i>“I like learning new things”</i></b></p> <p>RESPONSES:</p> <p>1 “Not at all”      2 “Very little”      3 “To some extent”      4 “To a high extent”      5 “To a very high extent”</p>	<p><b>D. Like Learning and Lack of Interest: Statistical Associations</b></p> <p>D1. Percent not interested in more courses (<b>B_26a</b>) by like of learning response (<b>I_Q04</b>)</p> <table border="1"> <thead> <tr> <th>Like learning new things</th> <th>% Not interested in more courses</th> </tr> </thead> <tbody> <tr> <td>Not at all</td> <td>69.6%</td> </tr> <tr> <td>Very little</td> <td>60.3%</td> </tr> <tr> <td>To some extent</td> <td>43.4%</td> </tr> <tr> <td>To a high extent</td> <td>29.6%</td> </tr> <tr> <td>To a very high extent</td> <td>26.6%</td> </tr> </tbody> </table> <p>D2. Pearson’s Correlations</p> <table border="1"> <thead> <tr> <th></th> <th>[1]</th> <th>[2]</th> <th>[3]</th> <th>[4]</th> </tr> </thead> <tbody> <tr> <td>[1] Want more courses</td> <td>1.000</td> <td></td> <td></td> <td></td> </tr> <tr> <td>[2] Like learning new things</td> <td>-0.165</td> <td>1.000</td> <td></td> <td></td> </tr> <tr> <td>[3] Participated in CVET</td> <td>-0.810</td> <td>0.113</td> <td>1.000</td> <td></td> </tr> <tr> <td>[4] Number of courses</td> <td>-0.568</td> <td>0.149</td> <td>0.645</td> <td>1.000</td> </tr> </tbody> </table>	Like learning new things	% Not interested in more courses	Not at all	69.6%	Very little	60.3%	To some extent	43.4%	To a high extent	29.6%	To a very high extent	26.6%		[1]	[2]	[3]	[4]	[1] Want more courses	1.000				[2] Like learning new things	-0.165	1.000			[3] Participated in CVET	-0.810	0.113	1.000		[4] Number of courses	-0.568	0.149	0.645	1.000
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**Table A1 Descriptive statistics (mean and standard error) by country**

	<b>All Three</b>		<b>Germany</b>		<b>Sweden</b>		<b>UK</b>	
	%	s.e.	%	s.e.	%	s.e.	%	s.e.
CVET	56.44	0.66	53.09	1.30	59.45	0.94	56.78	1.15
Male	52.79	0.23	52.96	0.50	51.94	0.41	53.48	0.26
Age (mean)	40.75	0.05	41.44	0.09	40.77	0.11	40.05	0.08
Children	70.63	0.53	70.16	0.90	73.60	0.94	68.14	0.91
Tertiary education[a]	39.39	0.44	36.22	0.75	37.33	0.64	44.63	0.86
Primary education[a]	11.99	0.34	8.39	0.59	10.65	0.49	16.93	0.68
ISCO 4, occupation[b]	44.64	0.47	40.67	0.75	50.39	0.73	42.88	0.94
ISCO 3, occupation[b]	28.43	0.50	28.80	0.81	25.13	0.77	31.35	0.99
ISCO 2, occupation[b]	20.00	0.42	23.47	0.81	20.15	0.69	16.38	0.69
Full-time	73.13	0.49	68.64	0.85	78.04	0.95	72.70	0.72
Part-time	20.19	0.44	24.26	0.75	15.58	0.89	20.74	0.61
Permanent contract	71.97	0.56	72.30	0.97	75.67	0.87	67.94	1.03
Temporary contract	8.01	0.28	9.09	0.49	7.29	0.46	7.65	0.51
Public sector	24.93	0.49	18.72	0.81	31.50	0.89	24.58	0.85
Presence of any barrier	32.35	0.59	32.73	0.96	36.42	1.01	27.89	1.09
Time barrier	15.51	0.44	17.18	0.75	16.20	0.80	13.14	0.71
Money barrier	3.93	0.22	2.69	0.29	3.72	0.39	5.40	0.46
Support barrier	3.20	0.21	3.65	0.40	3.25	0.33	2.70	0.35
Care barrier	4.37	0.24	4.43	0.50	5.36	0.42	3.31	0.29
Lack of interest	33.18	0.65	37.20	1.27	27.94	0.83	34.39	1.21

PIAAC 2012, data subset to those aged 25-55 and in the labor force, authors' own estimations using *piaactools* Stata ado (Jakubowski and Pokropek 2019). Unweighted N = 9,867 (DE = 2,931, SE = 2,374, UK = 4,562). [a] Secondary omitted category. [b] PIAAC international ISCO scheme where 4 = Skilled, 3 = Semi-skilled, white-collar, 2 = Semi-skilled blue-collar and 1 = Elementary.

**Table A2 Correlation matrix**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(1) CVET	1.00																				
(2) Male	0.02	1.00																			
(3) Age	0.00	-0.02	1.00																		
(4) Children	-0.04	-0.09	0.38	1.00																	
(5) Tertiary education	0.19	-0.01	-0.04	-0.10	1.00																
(6) Blue-collar	-0.12	0.37	0.01	0.04	-0.26	1.00															
(7) Professional	0.25	-0.02	-0.02	-0.07	0.50	-0.44	1.00														
(8) Full-time	0.15	0.41	-0.02	-0.16	0.08	0.19	0.11	1.00													
(9) Part-time	-0.11	-0.41	0.06	0.17	-0.07	-0.20	-0.09	-0.84	1.00												
(10) Permanent contract	0.15	-0.03	0.04	0.03	0.02	-0.05	0.07	0.18	-0.02	1.00											
(11) Temporary contract	0.00	-0.03	-0.11	-0.06	0.01	-0.03	-0.03	-0.03	0.06	-0.47	1.00										
(12) Public sector	0.18	-0.17	0.07	0.04	0.19	-0.20	0.16	-0.03	0.08	0.13	0.09	1.00									
(13) Presence of barrier	0.20	-0.05	-0.04	-0.03	0.16	-0.11	0.16	0.00	-0.01	-0.01	0.01	0.10	1.00								
(14) Time barrier	0.18	0.04	0.00	-0.06	0.15	-0.07	0.16	0.12	-0.09	0.02	0.00	0.06	0.64	1.00							
(15) Money barrier	0.02	-0.05	-0.05	-0.03	0.04	-0.04	0.01	-0.07	0.04	-0.07	0.03	0.00	0.29	-0.08	1.00						
(16) Support barrier	0.08	-0.02	0.00	-0.01	0.03	-0.02	0.05	0.01	-0.02	0.03	0.00	0.03	0.27	-0.08	-0.04	1.00					
(17) Care barrier	0.01	-0.12	-0.02	0.11	0.04	-0.06	0.05	-0.13	0.12	-0.01	-0.01	0.03	0.31	-0.09	-0.04	-0.04	1.00				
(18) Lack of interest	-0.38	0.03	0.03	0.04	-0.20	0.14	-0.23	-0.05	0.04	-0.02	-0.01	-0.13	-0.79	-0.51	-0.23	-0.22	-0.24	1.00			
(19) Germany	-0.04	0.00	0.07	0.01	-0.07	0.08	-0.03	-0.05	0.05	0.04	0.03	-0.08	0.04	0.05	-0.06	0.02	0.02	0.02	1.00		
(20) Sweden	0.02	-0.01	0.00	0.02	-0.01	0.00	0.04	0.04	-0.04	0.03	-0.01	0.06	0.03	0.00	0.00	0.00	0.02	-0.03	-0.30	1.00	
(21) United Kingdom	0.03	0.01	-0.07	-0.02	0.08	-0.08	0.01	0.03	-0.03	-0.05	-0.02	0.05	-0.05	-0.05	0.07	-0.02	-0.03	-0.01	-0.88	-0.20	1.00

PIAAC 2012, pairwise estimations using aweight = SPFWT0.

**Table A3 Logistic regressions predicting CVET participation, odds ratios**

Variable	OR (SE)	Pooled model			Country models		
		xGER	xSWE	xUK	Germany	Sweden	UK
Male	1.169*				1.315*	1.057	0.974
	(0.081)				(0.128)	(0.119)	(0.106)
Age	1.077*				1.132†	0.922	1.030
	(0.040)				(0.073)	(0.054)	(0.049)
Age <sup>2</sup>	0.999†				0.999†	1.001	1.000
	(0.000)				(0.001)	(0.001)	(0.001)
Children	0.947				0.856	0.945	1.112
	(0.069)				(0.092)	(0.095)	(0.116)
Tertiary education	1.288*	0.849	0.942		1.270*	1.056	1.214†
	(0.141)	(0.133)	(0.146)		(0.141)	(0.107)	(0.134)
Non-manual, occ.	1.954*	0.634*	0.742†		2.097*	1.148	1.232
	(0.200)	(0.094)	(0.127)		(0.224)	(0.159)	(0.167)
Professionals	3.130*	0.747	0.717†		3.342*	2.344*	2.120*
	(0.376)	(0.135)	(0.129)		(0.408)	(0.314)	(0.273)
Full-time	1.522*				2.062*	2.040*	0.861
	(0.190)				(0.383)	(0.384)	(0.188)
Part-time	0.834				1.147	1.329	0.470*
	(0.113)				(0.248)	(0.298)	(0.119)
Permanent contract	2.019*				1.698*	1.841*	2.584*
	(0.148)				(0.212)	(0.237)	(0.285)
Temporary contract	1.734*				1.452	1.201	2.388*
	(0.248)				(0.338)	(0.261)	(0.439)
Public sector	1.744*				1.481*	1.629*	2.122*
	(0.142)				(0.186)	(0.175)	(0.287)
Barrier presence	2.415*	0.554*	0.780†		2.423*	1.328*	1.866*
	(0.263)	(0.080)	(0.109)		(0.261)	(0.133)	(0.176)
Constant [Baseline odds]	[0.035*]	1.729*	1.571*		[0.011*]	[1.515]	[0.184†]
	(0.026)	(0.203)	(0.187)		(0.014)	(1.837)	(0.178)
N	9,853				2,931	2,367	4,555

PIAAC 2012 logistic regressions using jackknife estimation with replicate weights (svyset & spfwt\*). Odds-ratios with standard errors in parentheses, †.p <0.10, \* p<0.05. DE is the reference country, therefore odds-ratios for SE and UK are relative to this. Country-specific models included as sensitivity analyses.

**Table A4 Logistic regressions predicting lack of CVET interest, odds ratios**

Variable	OR (SE)	Pooled model			Country models		
		xGER	xSWE	xUK	Germany	Sweden	UK
Male	1.096 (0.074)				1.156 (0.105)	0.979 (0.086)	1.052 (0.098)
Age	0.923* (0.034)				0.870* (0.043)	0.966 (0.054)	0.995 (0.053)
Age <sup>2</sup>	1.001* (0.000)				1.002* (0.001)	1.001 (0.001)	1.000 (0.001)
Children	1.045 (0.080)				1.136 (0.134)	0.996 (0.120)	0.921 (0.091)
Tertiary education		0.663* (0.070)	1.033 (0.162)	0.941 (0.139)	0.666* (0.073)	0.655* (0.066)	0.624* (0.068)
Non-manual, occ.		0.647* (0.082)	1.475* (0.277)	1.325 (0.240)	0.650* (0.084)	0.877 (0.122)	0.876 (0.120)
Professionals		0.381* (0.041)	1.518* (0.242)	1.398 <sup>†</sup> (0.249)	0.381* (0.042)	0.537* (0.065)	0.530* (0.067)
Full-time	0.974 (0.132)				0.849 (0.185)	0.732 (0.143)	1.256 (0.253)
Part-time	1.265 <sup>†</sup> (0.173)				1.150 (0.261)	0.681 (0.160)	1.595* (0.356)
Permanent contract	1.074 (0.0482)				1.202 (0.140)	1.158 (0.155)	0.921 (0.117)
Temporary contract	1.058 (0.145)				1.227 (0.245)	1.277 (0.252)	0.831 (0.136)
Public sector	0.656* (0.052)				0.680* (0.074)	0.872 (0.088)	0.595* (0.070)
Constant		10.646* (7.791)	0.623* (0.086)	0.857 (0.119)	31.080* (30.938)	3.315 (3.619)	2.186 (2.238)
N			9,853		2,931	2,367	4,555

PIAAC 2012 logistic regressions using jackknife estimation with replicate weights (svyset & spfwgt). Odds-ratios with standard errors in parentheses, <sup>†</sup>p <0.10, \* p<0.05. DE is the reference country, therefore odds-ratios for SE and UK are relative to this. Country-specific models included as sensitivity analyses. Lack of interest defined as those who participated in 3 or less courses in the last 12 months and answered “No” to the question “In the last 12 months, were there more learning activities you wanted to take part in but did not? Include both learning activities that lead to formal qualifications and other organised learning activities.”

**Table A5 Logistic regressions including barriers predicting CVET participation for those interested in training, odds ratios**

	OR (SE)	Pooled model			Country models		
		xGER	xSWE	xUK	Germany	Sweden	UK
Male	1.041 (0.160)				1.050 (0.235)	1.049 (0.168)	0.951 (0.204)
Age	1.154* (0.075)				1.142 (0.120)	0.989 (0.095)	1.253* (0.108)
Age <sup>2</sup>	0.998* (0.001)				0.998 (0.001)	1.000 (0.001)	0.997* (0.001)
Children	1.285 (0.205)				1.408 (0.317)	1.185 (0.216)	1.159 (0.269)
Full-time	1.924* (0.450)				3.217† (1.047)	2.465* (0.717)	0.775 (0.284)
Part-time	0.938 (0.264)				1.324 (0.515)	1.515 (0.571)	0.523 (0.246)
Permanent contract	1.862* (0.298)				1.497 (0.377)	1.495* (0.282)	2.866* (0.603)
Temporary contract	1.774* (0.378)				1.204 (0.386)	1.048 (0.400)	4.457* (1.446)
Public sector	1.520* (0.209)				1.394 (0.289)	1.469* (0.247)	1.722* (0.379)
Tertiary education		0.900 (0.499)	0.723 (0.504)	1.141 (0.815)	0.905 (0.518)	0.639 (0.236)	0.964 (0.430)
Non-manual, occ.		2.299 (1.312)	0.518 (0.297)	1.027 (0.728)	2.309 (1.353)	1.222 (0.433)	2.129 (1.174)
Professionals		3.498* (1.672)	2.747 (1.791)	1.689 (1.154)	3.373* (1.726)	10.437* (4.349)	5.911* (3.007)
Time barrier		0.267* (0.110)	1.389 (0.744)	1.801 (1.197)	0.231† (0.097)	0.374* (0.155)	0.492 (0.215)
Ed tert*Time		1.851 (1.144)	0.940 (0.761)	0.757 (0.610)	1.776 (1.134)	1.774 (0.870)	1.403 (0.751)
Semi-skilled, white*Time		0.740 (0.526)	1.249 (1.039)	0.568 (0.545)	0.834 (0.604)	0.889 (0.505)	0.373 (0.233)
Skilled*Time		0.989 (0.557)	0.285 (0.216)	0.224† (0.176)	1.137 (0.669)	0.275** (0.152)	0.213* (0.130)
Money barrier		0.040* (0.048)	3.295 (4.243)	2.827 (3.659)	0.037* (0.045)	0.144* (0.091)	0.111* (0.070)
Ed tert *Money		1.507 (1.451)	3.979 (4.496)	1.044 (1.173)	1.429 (1.427)	6.527* (3.681)	1.662 (1.083)
Semi-skilled, white*Money		19.386* (26.931)	0.256 (0.442)	0.030* (0.046)	22.786* (17.133)	4.466 (4.024)	0.497 (0.382)
Skilled*Money		4.756 (7.804)	0.041† (0.076)	0.194 (0.367)	5.480 (9.296)	0.173* (0.135)	0.855 (0.739)
Support barrier		0.473 (0.296)	1.802 (1.362)	4.337 (4.930)	0.442 (0.297)	0.911 (0.557)	1.785 (1.556)
Ed tert *Support		0.961 (0.636)	1.348 (1.396)	0.190 (0.237)	0.975 (0.660)	1.274 (0.907)	0.223 (0.217)
Semi-skilled, white*Support		1.010 (1.004)	0.302 (0.390)	0.152 (0.231)	1.057 (1.071)	0.299 (0.278)	0.151 (0.202)
Skilled*Support		0.682 (0.528)	0.060* (0.069)	0.603 (1.038)	0.767 (0.618)	0.038* (0.036)	0.360 (0.533)
Care responsibility barrier		0.076* (0.054)	4.037 (3.512)	0.997 (0.986)	0.070* (0.049)	0.332* (0.178)	0.303 (0.173)
Ed tert *Care		2.066 (1.451)	1.492 (1.417)	1.152 (1.033)	2.109 (1.530)	3.145* (1.783)	1.853 (0.713)
Semi-skilled, white*Care		1.575 (1.548)	0.247 (0.266)	1.266 (1.748)	1.735 (1.699)	0.371 (0.268)	2.319 (1.415)
Skilled*Care		1.454 (1.354)	0.121† (0.138)	0.681 (0.900)	1.687 (1.597)	0.169* (0.117)	1.955 (1.196)
Constant		0.087† (0.118)	0.760 (0.249)	1.156 (0.512)	0.091 (0.198)	1.098 (2.066)	0.036* (0.060)
N		4,355			1,251	1,187	1,917

PIAAC 2012. Logistic regressions using jackknife estimation with replicate weights (svyset & spfwgt\*). Odds-ratios with standard errors in parentheses, †.p <0.10, \* p<0.05. DE is the reference country, therefore odds-ratios for SE and UK are

relative to this. Country-specific models included as sensitivity analyses. Barriers that are not an interaction term can be interpreted as that barrier's effect for non-tertiary educated blue-collar workers.