

Digitalisation, Gender, and Training of Employees in the Second Half of Working Life in Germany

Appendix

1	Extensive Variable Description	A2
2	Extensive Results	A4
3	Regression Diagnostics	A6
4	Additional Analyses	A10
5	Illustrative Material	A14
6	Literature	A14

Tables and Figures

Table 4:	Variable Description	A2
Table 5:	Participation in Training of Employees in the Second Half of Working Life in Germany	A4
Table 6:	Desire to Participate in Training of Employees in the Second Half of Working Life in Germany	A5
Figure 5:	Receiver-Operator-Characteristic (ROC) Curves	A7
Table 7:	Correlation Matrix for Independent Variables	A8
Table 8:	Correlation Matrix for Training and Gender	A9
Table 9:	Cross Tabulation Training Participation and Desire to Participate in Training Separated for Gender	A9
Table 10:	Participation in Training of Employees in the Second Half of Working Life Controlled for Their Desire for Training Participation	A10
Table 11:	Participation in Training – Robustness Checks	A11
Table 12:	Desire to Participate in Training – Robustness Checks	A12
Table 13:	Occupations with Highest/Lowest (Change in the) DL	A14
Figure 6:	Frequency Distribution of Male and Female Employees across Occupations' (Change in the) Digitalization Level	A14

1 Extensive Variable Description

The plausibility of each value of variables considered in the analyses was tested. Extremely high working hours, that deviated three standard deviations from the mean (>75 hours) were truncated and recoded to missing. If the number of years of employees’ career interruption was assessed as not plausible in view of employee’s age and years employed, related values were recoded to missing. Furthermore, values were recoded to missing if the stated age at that employees plan to stop working exceeds 100 years. For employees that stated to be undecided about their planned age at that they stop working the mean value was used to avoid missing values. A detailed description of all variables considered in the analyses can be found in table 4.

Table 4: Variable Description

Variable	Question in DEAS 2017 / Conceptualisation of Variable in Other Data Source
participation in training	“There are courses and advanced occupational training programs available for many occupations. Think back over the past 3 years. Did you attend any training, courses, seminars or events ofigned to provide occupational training or vocational retraining?”
desire to participate in training in future	“Would you like to take part in an advanced occupational training course or program in the near future?”
digitalisation level	Source: (O’Kane et al. 2020). The digitalisation level was built by calculating the average recall for each skill in each occupation by dividing the number of job postings for occupation _x asking for skill _y by the total number of job postings for occupation _x . Then, each determined average recall was multiplied by the related weight of the skill type and the weighted recalls for every skill by occupation were summed up. Then, for each occupation-specific skill demand value the logarithm was taken, and the values were normalized to range between 0 and 100.
change in digitalisation level	Source: (O’Kane et al. 2020) The change in the digitalisation level was determined by calculating the difference in the digitalisation level between 2014 and 2018, scaling the digitalisation level 2014 in terms of the digitalisation level 2018 for accurate comparison.
gender	Sex of respondent assessed by interviewer.
age	“Many questions are guided by the year of birth. I sincerely ask you to give me your date of birth so that I can ask you only those questions that apply to your age.” The age was generated in DEAS 2017 by subtracting the respondents’ date of birth from the date of the survey interview.

Variable	Question in DEAS 2017 / Conceptualisation of Variable in Other Data Source
residency	Residency was generated in DEAS 2017 based on respondents' current residential address. "East Germany" includes the territory of the German Democratic Republic including East Berlin. "West Germany" includes the territory of the Federal Republic of Germany including West Berlin.
high education	Level of education referring to the International Standard Classification of Education (ISCED), 3-level. The variable was generated in DEAS 2017 based on information on kind and place of respondents' education. No 0: ISCED0–4 Yes 1: ISCED 5–6
gender composition of occupations	Source:(Stuth 2022), based on the German Microcensus 2015
responsible for major part of housework	"Now I would like to ask which one of you does the housework. Who is mainly responsible for tasks like cooking meals, washing dishes, doing laundry, cleaning, and buying groceries?" Categorical scale: 1: Mainly me; 2: Both my partner and I, equally often; 3: Mainly my partner; 4: Mainly another person in the household; 5: Mainly another person who does not live in the household; 6: Does not apply, nursing home No 0: 2–6 Yes 1: 1 & living alone
young children in same household	"Do you have children? By this I mean kind of your own, children who have grown up or are growing up in your household, as well as any children who may no longer be alive. [If children existing:] And how many children do you have?" "What year was [child x] born?" "Does [child x] live in your house or household?" No 0: No child younger than 13 years living in same household Yes 1: >=1 child younger than 13 years in same household
working time	"How many hours a week do you currently work at your job, including overtime?"
small enterprise	"Approximately how many other people work for the company you work for, including owners and trainees?" Ordinal scale: 1: fewer than 5 employees; 2: 5 and more, but less than 20 employees; 3: 20 and more, but less than 100 employees; 4: 100 and more, but less than 200 employees; 5: 200 and more, but less than 2,000 employees; 6: 2,000 employees and more No 0: 3–6 Yes 1: 1–2
public service	"If you think about your current job: What sector is the company in where you work? Is it [...] part of the public service?"

Variable	Question in DEAS 2017 / Conceptualisation of Variable in Other Data Source
years till planned end of work	<p>“At what age do you plan to stop working?”</p> <p>Planned age when stop working is subtracted by age. To avoid correlation with age, the residuals from years till planned end of working regressed on age are determined. Information for respondents with the answer “Don’t know yet” was replaced by the mean value.</p>
career interruption	<p>“Since the start of your working life, have you ever had an extended interruption in employment, either once or more than once, for a period longer than six months? What is meant here are only extended breaks between two jobs.”</p> <p>“How many years in total has your working life been interrupted?”</p> <p>[Rounded to full years.]</p>
professional change	<p>“Have you made any professional changes since [date of respondents last survey]? For example, have you started a new job or changed careers or taken on new tasks or responsibilities at work?”</p>

2 Extensive Results

Table 5: Participation in Training of Employees in the Second Half of Working Life in Germany

	Model 1	Model 2	Model 3
Digitalisation Level ^{a,b}	0.134 (0.122)	0.154 (0.124)	0.148 (0.120)
Gender (ref.: male)	0.109 (0.205)	0.111 (0.206)	1.012 (0.455)
Gender # Digitalisation Level ^{a,b}		-0.039 (0.213)	0.003 (0.195)
Change in Digitalisation Level ^b			0.270 (0.130)
Gender # Change in Digitalisation Level ^b			-0.418 (0.175)
Age ^{a,b}	-0.112 (0.077)	-0.112 (0.077)	-0.120 (0.076)
Residency ^a (ref.: West GER)	-0.376 (0.164)	-0.376 (0.164)	-0.408 (0.166)
East GER			
Educational Level ^a (ref.: not high)	0.605 (0.173)	0.601 (0.170)	0.602 (0.167)
High			
Gender Composition of Occupations (ref.: mixed)			
Female Dominated	0.350 (0.316)	0.344 (0.328)	0.396 (0.319)
Male Dominated	-0.015 (0.210)	-0.013 (0.208)	0.067 (0.214)
Housework ^{a,c}	-0.147 (0.142)	-0.145 (0.143)	-0.148 (0.145)

	Model 1	Model 2	Model 3
Young Child in Same HH ^{a,c}	-0.130 (0.192)	-0.135 (0.188)	-0.139 (0.192)
Working Hours (per week) ^{a,b}	0.486 (0.107)	0.487 (0.108)	0.500 (0.106)
Public Service ^a	0.811 (0.196)	0.810 (0.193)	0.791 (0.199)
Small Enterprise ^a (<20 employees)	-0.067 (0.201)	-0.069 (0.195)	-0.066 (0.191)
Years till Planned End of Working ^{a,b,d}	0.053 (0.074)	0.053 (0.074)	0.046 (0.073)
Career Interruption (in years) ^{a,b,c}	0.042 (0.073)	0.041 (0.073)	0.048 (0.074)
Professional Change ^a	0.008 (0.169)	0.007 (0.168)	-0.005 (0.169)
Constant	0.528 (0.183)	0.525 (0.178)	-0.065 (0.357)
n	1,020	1,020	1,020
Prob. >χ ²	0.000	0.000	0.000
R ² _{Adj. McFadden}	0.078	0.078	0.085
AIC	1,274.595	1,276.512	1,271.043

Note: b = partial logistic regression coefficients (log odds). SE = clustered standard errors (by occupation). Bold: significant at 95 % level.

^a centred at the mean; ^b standardized; ^c information for variable from DEAS 2014, ^d planned years controlled for age (residuals).

Source: DEAS 2017.

Table 6: Desire to Participate in Training of Employees in the Second Half of Working Life in Germany

	Model 1	Model 2	Model 3
Digitalisation Level ^{a,b}	0.151 (0.089)	0.127 (0.107)	0.126 (0.110)
Gender (ref.: male)	-0.171 (0.206)	-0.172 (0.207)	0.347 (0.367)
Female			
Gender # Digitalisation Level ^{a,b}		0.048 (0.170)	-0.006 (0.178)
Change in Digitalisation Level ^b			0.383 (0.115)
Gender # Change in Digitalisation Level ^b			-0.225 (0.138)
Age ^{a,b}	-0.622 (0.096)	-0.622 (0.096)	-0.627 (0.098)
Residency ^a (ref.: West GER)	-0.223 (0.135)	-0.224 (0.135)	-0.260 (0.137)
East GER			
Educational Level ^a (ref.: not high)	0.716 (0.149)	0.721 (0.150)	0.732 (0.147)
High			

	Model 1	Model 2	Model 3
Gender Composition of Occupations (ref.: mixed)			
Female Dominated	0.307 (0.232)	0.315 (0.245)	0.309 (0.251)
Male Dominated	0.061 (0.198)	0.058 (0.197)	0.311 (0.221)
Housework ^a	-0.143 (0.194)	-0.146 (0.194)	-0.152 (0.199)
Young Child in Same HH ^a	0.017 (0.300)	0.021 (0.299)	0.009 (0.302)
Working Hours (per week) ^{a,b}	0.145 (0.108)	0.143 (0.108)	0.149 (0.106)
Public Service ^a	0.601 (0.183)	0.603 (0.183)	0.563 (0.193)
Small Enterprise ^a (<20 employees)	0.146 (0.181)	0.150 (0.181)	0.172 (0.186)
Years till Planned End of Working ^{a,b,d}	0.026 (0.074)	0.025 (0.074)	0.029 (0.073)
Career Interruption (in years) ^{a,b}	-0.077 (0.077)	-0.077 (0.078)	-0.075 (0.077)
Professional Change ^a	0.531 (0.176)	0.532 (0.176)	0.524 (0.176)
Constant	0.836 (0.178)	0.838 (0.177)	-0.063 (0.315)
n	1,018	1,018	1,018
Prob. > χ^2	0.000	0.000	0.000
R ² _{Adj. McFadden}	0.103	0.103	0.113
AIC	1,217.473	1,219.360	1,209.529

Note: b = partial logistic regression coefficients (log odds). SE = clustered standard errors (by occupation). Bold: significant at 95 % level.

^a centred at the mean; ^b standardized; ^d planned years controlled for age (residuals).

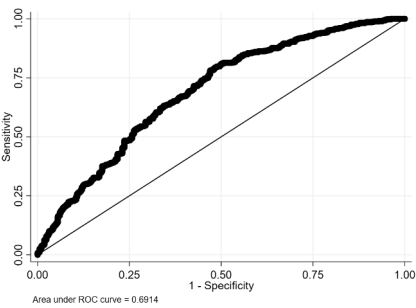
Source: DEAS 2017.

3 Regression Diagnostics

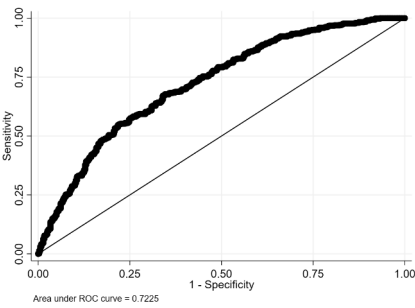
Regression diagnostics were conducted for model 3. The regressions have been checked for influential cases by using Pregibon's dbeta (Pregibon 1981). One influential case with a predicted dbeta greater than 0.3 was identified and excluded from the analyses regarding training participation. Regarding the desire for training participation no outlier was identified. In addition, the Hosmer and Lemeshow's goodness-of-fit-test using ten quantiles was conducted (Hosmer/ Lemeshow 1980, Hosmer et al. 2013). The test indicated that both models – for the training participation and the desire for training participation – were good specified. To display the overall performance of the model for the predicted probabilities the Receiver-Operating-Characteristic (ROC) was calculated (see. Fig. 5).

Figure 5: Receiver-Operator-Characteristic (ROC) Curves

Participation in Training



Desire to Participate in Training



Source: DEAS 2017.

In order to check if the considered control variables are correlated to each other, a correlation matrix was generated (see tab. 7). To check for multicollinearity, the variance inflation factors (VIF) have been determined. No serve correlations were identified, neither for the analysis of the participation in training nor the desire to take part in training.

Table 7: Correlation Matrix for Independent Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Digitalisation Level	1.000														
2 Change in Digitalisation Level	0.117	1.000													
3 Gender	-0.118	0.126	1.000												
4 Age	-0.055	-0.008	0.032	1.000											
5 Residency	-0.052	0.004	0.079	0.032	1.000										
6 High Education	0.274	0.061	-0.106	0.040	0.051	1.000									
7 Housework	-0.144	0.049	0.568	-0.005	0.021	-0.138	1.000								
8 Young Child in Same HH	0.156	0.032	-0.179	-0.461	-0.076	0.104	-0.164	1.000							
9 Gender Compos. of Occ.	0.209	-0.299	-0.487	-0.055	0.055	0.019	-0.295	0.091	1.000						
10 Working Time	0.219	-0.046	-0.455	-0.057	0.095	0.192	-0.360	0.047	0.330	1.000					
11 Public Service	-0.013	0.153	0.127	0.140	-0.020	0.183	0.044	-0.012	-0.187	-0.053	1.000				
12 Small Enterprise	-0.189	-0.049	0.153	0.033	0.040	-0.112	0.149	-0.052	-0.126	-0.240	-0.144	1.000			
13 Years till End of Work	0.044	-0.021	-0.093	-0.031	0.021	0.100	-0.027	0.040	0.063	0.087	0.057	-0.003	1.000		
14 Career Interruption	-0.078	0.037	0.322	0.048	-0.028	-0.110	0.216	-0.054	-0.239	-0.310	0.025	0.148	0.002	1.000	
15 Professional Change	-0.003	0.016	0.052	-0.083	-0.046	0.024	0.076	-0.019	-0.090	-0.041	-0.032	0.041	0.029	0.021	1.000

Source: DEAS 2017.

Table 8: Correlation Matrix for Training and Gender

	Variable	1	2	3
1	Training Participation	1.000		
2	Desire to Participate in Training	0.299	1.000	
3	Gender	-0.054	-0.078	1.000

Source: DEAS 2017.

Table 9: Cross Tabulation Training Participation and Desire to Participate in Training Separated for Gender

Male			
Training Participation	Desire to Participate in Training		
	no	yes	total
no	77	88	165
	46.67	53.33	100.00
	51.33	26.75	34.45
yes	73	241	314
	23.25	76.75	100.00
	48.67	73.25	65.55
total	150	329	479
	31.32	68.68	100.00
	100	100	100
Female			
Training Participation	Desire to Participate in Training		
	no	yes	total
no	127	87	214
	59.35	40.65	100.00
	60.77	26.36	39.70
yes	82	243	325
	25.23	74.77	100.00
	39.23	73.64	60.30
total	209	330	539
	38.78	61.22	100.00
	100.00	100.00	100.00

Source: DEAS 2017.

4 Additional Analyses

Table 10: Participation in Training of Employees in the Second Half of Working Life Controlled for Their Desire for Training Participation

	Model 3	Model 3 + Desire for Training
Digitalisation Level ^{a,b}	0.148 (0.120)	0.116 (0.126)
Gender (ref.: male)	1.012	0.914
Female	(0.455)	(0.428)
Gender # Digitalisation Level ^{a,b}	0.003 (0.195)	0.022 (0.190)
Change in Digitalisation Level ^b	0.270 (0.130)	0.243 (0.120)
Gender # Change in Digitalisation Level ^b	-0.418 (0.175)	-0.357 (0.163)
Age ^{a,b}	-0.120 (0.076)	-0.047 (0.079)
Residency ^a (ref.: West GER)	-0.408	-0.423
East GER	(0.166)	(0.176)
Educational Level ^a (ref.: not high)	0.602	0.436
High	(0.167)	(0.171)
Gender Composition of Occupations (ref.: mixed)		
Female Dominated	0.396 (0.319)	0.377 (0.308)
Male Dominated	0.067 (0.214)	0.079 (0.213)
Housework ^{a,c}	-0.148 (0.145)	-0.142 (0.150)
Young Child in Same HH ^{a,c}	-0.139 (0.192)	-0.113 (0.201)
Working Hours (per week) ^{a,b}	0.500 (0.106)	0.463 (0.109)
Public Service ^a	0.791 (0.199)	0.751 (0.196)
Small Enterprise ^a (<20 employees)	-0.066 (0.191)	-0.101 (0.191)
Years till Planned End of Working ^{a,b,d}	0.046 (0.073)	0.006 (0.077)
Career Interruption (in years) ^{a,b,c}	0.048 (0.074)	0.029 (0.076)
Professional Change ^a	-0.005 (0.169)	-0.075 (0.176)
Desire to Participate in Training ^{a,c}		1.028 (0.171)

	Model 3	Model 3 + Desire for Training
Constant	-0.065 (0.357)	-0.027 (0.331)
n	1,020	1,010
Prob. > χ^2	0.000	0.000
R ² Adj. McFadden	0.085	0.115
AIC	1,271.043	1,217.734

Note: b = partial logistic regression coefficients (log odds). SE = clustered standard errors (by occupation). Bold: significant at 95 % level.

^a centred at the mean; ^b standardized; ^c information for variable from DEAS 2014, ^d planned years controlled for age (residuals).

Source: DEAS 2017.

Table 11: Participation in Training – Robustness Checks

	Model 3	Model 3 Subsample 50 to 65 Years	Model 3 Random Sample (80 %)	Model 3 Exclusion Highest 5 DL	Model 3 Exclusion Highest 5 CDL
Digitalisation Level ^{a,b}	0.148 (0.120)	0.311 (0.116)	0.205 (0.147)	0.207 (0.125)	0.126 (0.122)
Gender (ref.: male) Female	1.012 (0.455)	0.739 (0.491)	0.930 (0.528)	0.982* (0.460)	0.821 (0.465)
Gender # Digitalisation Level ^{a,b}	0.003 (0.195)	-0.213 (0.195)	-0.052 (0.223)	-0.037 (0.201)	0.018 (0.206)
Change in Digitalisation Level ^b	0.270 (0.130)	0.225 (0.131)	0.229 (0.158)	0.259 (0.132)	0.304 (0.136)
Gender # Change in Digitalisation Level ^b	-0.418 (0.175)	-0.323 (0.185)	-0.388 (0.209)	-0.413 (0.177)	-0.331 (0.177)
Age ^{a,b}	-0.120 (0.076)	-0.004 (0.119)	-0.179 (0.094)	-0.139 (0.077)	-0.131 (0.077)
Residency ^a (ref.: West GER) East GER	-0.408 (0.166)	-0.419 (0.191)	-0.305 (0.171)	-0.381 (0.167)	-0.359 (0.173)
Educational Level ^a (ref.: not high) High	0.602 (0.167)	0.605 (0.189)	0.582 (0.188)	0.614 (0.168)	0.636 (0.168)
Gender Composition of Occupations (ref.: mixed) Female Dominated	0.396 (0.319)	0.354 (0.320)	0.474 (0.336)	0.404 (0.322)	0.421 (0.360)
Male Dominated	0.067 (0.214)	-0.045 (0.221)	-0.012 (0.246)	0.064 (0.217)	0.097 (0.222)
Housework ^{a,c}	-0.148 (0.145)	0.044 (0.169)	-0.093 (0.162)	-0.172 (0.146)	-0.146 (0.148)
Young Child in Same HH ^{a,c}	-0.139 (0.192)	0.007 (0.322)	-0.232 (0.214)	-0.161 (0.195)	-0.134 (0.198)

	Model 3	Model 3	Model 3	Model 3	Model 3
		Subsample 50 to 65 Years	Random Sample (80 %)	Exclusion Highest 5 DL	Exclusion Highest 5 CDL
Working Hours (per week) ^{a,b}	0.500 (0.106)	0.532 (0.115)	0.536 (0.117)	0.476 (0.106)	0.474 (0.106)
Public Service ^a	0.791 (0.199)	0.757 (0.211)	0.841 (0.237)	0.809 (0.199)	0.753 (0.204)
Small Enterprise ^a (<20 employees)	-0.066 (0.191)	-0.070 (0.198)	-0.078 (0.217)	-0.072 (0.192)	-0.064 (0.198)
Years till Planned End of Working ^{a,b,d}	0.046 (0.073)	0.128 (0.101)	0.047 (0.087)	0.050 (0.074)	0.049 (0.074)
Career Interruption (in years) ^{a,b,c}	0.048 (0.074)	0.067 (0.077)	0.033 (0.079)	0.040 (0.074)	0.057 (0.075)
Professional Change ^a	-0.005 (0.169)	0.070 (0.196)	-0.120 (0.196)	-0.010 (0.171)	0.003 (0.175)
Constant	-0.065 (0.357)	0.035 (0.372)	0.052 (0.429)	-0.015 (0.362)	-0.124 (0.372)
n	1,020	811	816	1,009	987
Prob. > χ^2	0.000	0.000	0.000	0.000	0.000
R ² _{Adj. McFadden}	0.085	0.093	0.088	0.088	0.083
AIC	1,271.043	1,017.171	1,017.607	1,253.342	1,228.876

Note: b = partial logistic regression coefficients (log odds). SE = clustered standard errors (by occupation). Bold: significant at 95 % level. Bold and italic: significant at 90 % level.

^a centred at the mean; ^b standardized; ^c information for variable from DEAS 2014, ^d planned years controlled for age (residuals).

Source: DEAS 2017.

Table 12: Desire to Participate in Training – Robustness Checks

	Model 3	Model 3	Model 3	Model 3	Model 3
		Subsample 50 to 65 Years	Random Subsample (80 %)	Exclusion Highest DL	Exclusion Highest CDL
Digitalisation Level ^{a,b}	0.126 (0.110)	0.209 (0.110)	0.144 (0.125)	0.152 (0.111)	0.117 (0.112)
Gender (ref.: male)	0.347 (0.367)	0.260 (0.423)	0.357 (0.414)	0.297 (0.370)	0.321 (0.395)
Female					
Gender # Digitalisation Level ^{a,b}	-0.006 (0.178)	-0.034 (0.196)	-0.070 (0.194)	-0.039 (0.180)	-0.035 (0.181)
Change in Digitalisation Level ^b	0.383 (0.115)	0.431 (0.116)	0.386 (0.123)	0.374 (0.115)	0.407 (0.126)
Gender # Change in Digitalisation Level ^b	-0.225 (0.138)	-0.284 (0.152)	-0.154 (0.147)	-0.216 (0.139)	-0.196 (0.158)
Age ^{a,b}	-0.627 (0.098)	-0.756 (0.124)	-0.573 (0.107)	-0.630 (0.098)	-0.634 (0.100)

	Model 3	Model 3 Subsample 50 to 65 Years	Model 3 Random Subsample (80 %)	Model 3 Exclusion Highest DL	Model 3 Exclusion Highest CDL
Residency ^a (ref.: West GER)	-0.260	-0.244	-0.264	-0.237	-0.264
East GER	(0.137)	(0.162)	(0.159)	(0.137)	(0.140)
Educational Level ^a (ref.: not high)	0.732	0.804	0.671	0.725	0.730
High	(0.147)	(0.164)	(0.179)	(0.147)	(0.151)
Gender Composition of Occupations (ref.: mixed)					
Female Dominated	0.309	0.285	0.369	0.308	0.300
	(0.251)	(0.277)	(0.273)	(0.250)	(0.270)
Male Dominated	0.311	0.160	0.497	0.291	0.334
	(0.221)	(0.226)	(0.253)	(0.221)	(0.232)
Housework ^a	-0.152	0.046	-0.266	-0.144	-0.179
	(0.199)	(0.221)	(0.209)	(0.200)	(0.201)
Young Child in Same HH ^a	0.009	-0.010	0.172	0.049	0.108
	(0.302)	(0.464)	(0.282)	(0.308)	(0.320)
Working Hours (per week) ^{a,b}	0.149	0.170	0.114	0.144	0.148
	(0.106)	(0.114)	(0.117)	(0.106)	(0.108)
Public Service ^a	0.563	0.511	0.547	0.587	0.559
	(0.193)	(0.212)	(0.202)	(0.192)	(0.198)
Small Enterprise ^a (<20 employees)	0.172	0.151	0.126	0.172	0.144
	(0.186)	(0.197)	(0.211)	(0.186)	(0.190)
Years till Planned End of Working ^{a,b,d}	0.029	0.005	0.023	0.035	0.031
	(0.073)	(0.092)	(0.097)	(0.074)	(0.075)
Career Interruption (in years) ^{a,b}	-0.075	-0.085	-0.186	-0.075	-0.085
	(0.077)	(0.078)	(0.071)	(0.077)	(0.080)
Professional Change ^a	0.524	0.447	0.577	0.517	0.550
	(0.176)	(0.198)	(0.197)	(0.177)	(0.182)
Constant	-0.063	0.105	-0.302	-0.015	-0.123
	(0.315)	(0.324)	(0.336)	(0.318)	(0.335)
n	1,018	808	812	1,007	985
Prob. >c ²	0.000	0.000	0.000	0.000	0.000
R ² _{Adj. McFadden}	0.113	0.118	0.116	0.114	0.117
AIC	1,209.529	989.626	977.475	1,198.670	1,167.172

Note: b = partial logistic regression coefficients (log odds). SE = clustered standard errors (by occupation). Bold: significant at 95 % level. Bold and italic: significant at 90 % level.

^a centred at the mean; ^b standardized; ^d planned years controlled for age (residuals).

Source: DEAS 2017.

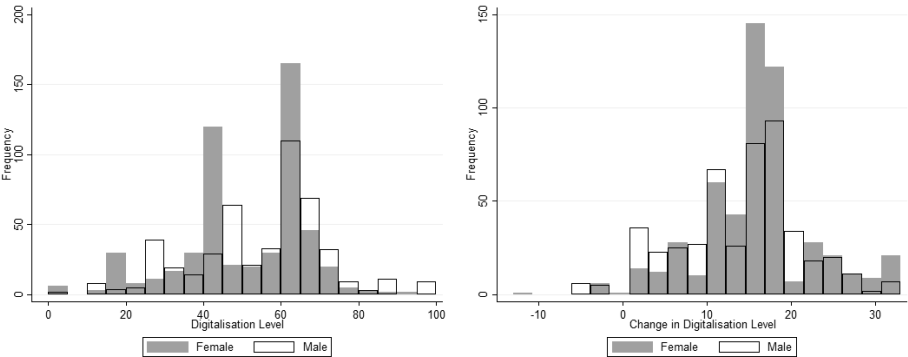
5 Illustrative Material

Table 13: Occupations with Highest/Lowest (Change in the) DL

Highest DL	Highest CDL
Web and Multimedia Developers	Cartographers and Surveyors
Database Designers and Administrators	Restaurant Manager
Systems Administrators	Companions and Valets
Lowest DL	Lowest CDL
Cleaners and Helpers in Offices, Hotels and Other Establishments	Woodworking-Machine Tool Setters and Operators
Bricklayers and Related Workers	Wood Processing Plant Operators
Heavy Truck and Lorry Drivers	Toolmakers and Related Workers

Source: DEAS 2017, n= 2,010.

Figure 6: Frequency Distribution of Male and Female Employees across Occupations' (Change in the) Digitalization Level



Source: DEAS 2017, n= 2,010.

6 Literature

Hosmer, David W. & Lemeshow, Stanley (1980): Goodness of fit tests for the multiple logistic regression model. *Communications in Statistics - Theory and Methods* 9(10): 1043-1069.

Hosmer, David W., Lemeshow, Stanley & Sturdivant, Rodney X. (2013): *Applied logistic regression, third edition*. 3rd ed. edition Hoboken, NJ: John Wiley and Sons.

O'Kane, Layla, Narasimhan, Rohit, Nania, Julia & Taska, Bledi (2020): Digitalization in the German Labor Market. Analyzing Demand for Digital Skills in Job Vacancies., in: Bertelsmann Stiftung (eds.). Gütersloh: Bertelsmann; Burning Glass Technologies.

Pregibon, Daryl (1981): Logistic Regression Diagnostics. *The Annals of Statistics* 9(4): 705-724.

Stuth, Stefan (2022): *Occupational Environments – An Activity-Based Approach Based on Holland* (Version 1.0.0) [Data Set]. Retrieved from: <https://doi.org/10.7802/2502>.