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Dropping or stopping out of apprenticeships: The role of performance- and integration-related risk factors

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**Dropping or stopping out of apprenticeships:
The role of performance and institutional-integration problems**

by **Anne Christine Holtmann & Heike Solga**

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Table S1. Sample selectivity

	Total sample: All who ever started an apprenticeship			Analysis sample: Those with observation until completion or at least 10 months after dropping out		
	<i>Mean/freq.</i>	<i>SD</i>	<i>N</i>	<i>Mean/freq.</i>	<i>SD</i>	<i>N</i>
N			7547			4575
% female	0.47		7542	0.46		4571
% Migration background	0.13		7516	0.12		4564
Mean age at start of 1 st VET	18.10	1.62	7541	17.81	1.38	4570
Highest level of parental education:			6350			4228
No certificate	0.08			0.08		
Vocational certificate	0.75			0.77		
Tertiary certificate	0.17			0.15		
Respondents' school-leaving certificate			7437			4506
No certificate	0.04			0.05		
Lower secondary certificate	0.30			0.31		
Intermediate certificate	0.50			0.52		
University entrance diploma (Abitur)	0.16			0.13		
Grade point average (on school-leaving certificate)	2.73	0.57	7364	2.70	0.57	4452
Math competence	-0.30	0.84	6705	-0.28	0.84	4043
Reading competence	-0.28	0.94	6479	-0.27	0.93	3900
Prosocial behavior	-0.02	1.01	6775	-0.01	1.01	4121
Problematic peer relationship behavior	0.04	1.01	6672	0.06	1.02	4068
Tenacious goal pursuit	-0.01	0.99	4852	-0.01	0.99	2912
Flexible goal adjustment	0.03	0.98	4754	0.03	0.99	2850
Big Five personality traits						
Extraversion	-0.02	0.99	6527	-0.03	1.00	3934
Agreeableness	0.04	0.99	6520	0.05	0.99	3931
Conscientiousness	0.05	1.00	6579	0.06	0.99	3971
Emotional stability	0.03	0.99	6573	0.03	0.98	3960
Openness to experience	-0.06	0.97	6563	-0.06	0.97	3962
Global self-esteem	-0.07	1.00	6236	-0.08	1.00	3770
Participation in prevocational training	0.23		7547	0.22		4575
Training in desired training occupation	0.00	1.01	7512	-0.02	1.03	4553
Type of training (company-based = 1)	0.76		7547	0.73		4575
Satisfaction with training	-0.02	1.11	6786	-0.06	1.11	3963
Satisfaction with wages	-0.08	1.07	6832	-0.06	1.06	3989
Only for training with company contract:						
Company size	4.90	2.88	5663	4.92	2.90	3315
Number of apprentices	3.26	2.11	5676	3.27	2.10	3318
Involvement in work processes	4.33	0.70	5305	4.34	0.66	3014

Source: NEPS SC4 SUF 11.0.0, authors' calculations, unweighted.

Table S2. Descriptive information of the intake and independent variables by the dependent variable VET completion vs. dropout/stopout (variables only used in robustness checks in brackets)

	VET program successfully completed			Permanent dropout			Occupational stopout			Company stopout			University stopout		
	Mean/freq.	SD	N	Mean/freq.	SD	N	Mean/freq.	SD	N	Mean/freq.	SD	N	Mean/freq.	SD	N
Intake selection & demographics															
% female	0.45		3587	0.48		253	0.47		482	0.51		169	0.57		80
% migration background	0.11		3584	0.21		252	0.15		481	0.19		168	0.06		79
Mean age at start of first VET	17.79	1.38	3587	18.14	1.40	253	17.73	1.35	481	17.53	1.19	169	18.75	1.39	80
Highest level of parental education			3366			213			425			146			78
No certificate	0.07			0.21			0.10			0.15			0.01		
Vocational certificate	0.78			0.72			0.78			0.74			0.50		
Tertiary certificate	0.15			0.07			0.12			0.11			0.49		
Respondent's school-leaving certificate:			3539			249			474			164			80
No certificate	0.04			0.17			0.04			0.04			0.00		
Lower secondary certificate	0.28			0.49			0.41			0.52			0.08		
Intermediate certificate	0.54			0.31			0.50			0.41			0.35		
University entrance diploma (Abitur)	0.15			0.03			0.05			0.04			0.57		
Grade point average at school-leaving certificate	2.66	0.56	3501	2.94	0.69	239	2.85	0.54	469	2.87	0.58	163	2.54	0.55	80
% participation in prevocational training	0.20		3589	0.39		254	0.25		483	0.28		169	0.03		80
Performance-related factors															
Mathematics competence ^{a)}	-0.21	0.85	3220	-0.73	0.74	182	-0.58	0.71	418	-0.51	0.70	145	0.17	0.81	78
[Reading competence ^{a)}]	-0.24	0.92	3115	-0.65	1.01	172	-0.39	0.88	401	-0.54	0.88	136	0.52	0.79	76
Prosocial behavior ^{a)}	0.01	0.99	3265	-0.09	1.17	213	-0.11	1.10	425	-0.01	1.02	143	0.21	0.82	75
Problematic peer relationship behavior ^{a)}	0.02	1.00	3221	0.15	1.04	211	0.21	1.09	422	0.25	1.20	141	0.10	1.06	73
Tenacious goal pursuit ^{a)}	-0.02	0.98	2424	0.13	1.11	90	0.02	1.03	256	-0.01	1.09	75	0.15	0.94	67
[Flexible goal adjustment ^{a)}]	0.01	0.98	2373	0.24	1.06	87	0.10	0.99	252	0.11	1.08	73	-0.01	1.02	65
Big Five personality traits ^{a)}															
Agreeableness	0.05	0.98	3127	0.02	0.98	177	0.08	1.04	409	-0.08	1.07	141	-0.20	1.07	77
Conscientiousness	0.08	0.99	3163	-0.04	0.91	179	0.05	0.97	412	0.00	1.11	139	-0.25	0.91	78
Openness to experience	-0.09	0.96	3155	-0.07	1.03	179	0.09	0.97	411	0.03	1.02	140	0.32	1.05	77
[Emotional stability]	0.02	0.98	3152	0.04	0.98	177	0.03	1.01	411	0.07	0.98	142	0.03	0.99	78
[Extraversion]	-0.04	1.00	3130	-0.09	0.92	177	-0.01	1.01	408	-0.01	1.11	141	0.00	1.06	78
[Global self-esteem ^{a)}]	-0.05	0.99	2993	-0.30	1.12	173	-0.18	1.06	396	-0.17	0.98	134	-0.08	1.02	74

	VET program successfully completed			Permanent dropout			Occupational stopout			Company stopout			University stopout		
	Mean/ freq.	SD	N	Mean/ freq.	SD	N	Mean/ freq.	SD	N	Mean/ freq.	SD	N	Mean/ freq.	SD	N
Integration-related factors															
Training in desired occupation ^{a)}	0.14	0.88	3568	-0.53	1.27	254	-0.68	1.30	482	-0.24	1.20	169	-1.19	1.25	80
Type of training (company-based = 1)	0.74		3589	0.63		254	0.70		483	0.72		169	0.70		80
Satisfaction with training ^{a)}	0.00	0.99	3388	-0.23	1.48	150	-0.41	1.61	290	-0.46	1.70	90	-0.86	1.48	45
Satisfaction with wages ^{a)}	-0.02	1.03	3394	-0.32	1.19	153	-0.25	1.24	299	-0.37	1.34	94	-0.15	1.06	49
Only for company-based apprentices:															
[Company size]	5.21	2.94	2648	3.64	2.31	157	3.84	2.41	333	3.07	1.84	122	5.07	3.20	55
[Number of apprentices]	3.45	2.16	2647	2.46	1.53	158	2.58	1.68	337	2.28	1.34	122	3.57	2.36	54
[Involvement in work processes]	4.35	0.64	2610	4.35	0.74	102	4.21	0.78	202	4.27	0.70	67	4.26	0.67	33
Total			3589			254			483			169			80

^{a)} z-standardized variables (mean = 0, SD = 1).

Source: NEPS SC4 SUF 11.0.0, authors' calculations, unweighted.

Table S3. Pairwise correlation matrix of intake, independent, and robustness check variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Gender (Female)	1.00														
2 Migration background (yes)	0.03	1.00													
3 Age at start of first VET	0.06***	0.05**	1.00												
<i>Parental education</i>															
4 No certificate	0.01	0.28***	0.05***	1.00											
5 Vocational certificate	0.01	-0.18***	-0.15***	-0.54***	1.00										
6 Tertiary certificate	-0.02	0.01	0.14***	-0.12***	-0.77***	1.00									
<i>School-leaving certificate</i>															
7 No certificate	-0.03	0.02	0.06***	0.06***	0.00	-0.05***	1.00								
8 Lower secondary certificate	-0.06***	0.11***	-0.21***	0.13***	0.02	-0.12***	-0.14***	1.00							
9 Intermediate certificate	0.01	-0.05***	-0.10***	-0.09***	0.09***	-0.03*	-0.22***	-0.69***	1.00						
10 Abitur	0.09***	-0.08***	0.40***	-0.07***	-0.15***	0.24***	-0.08***	-0.26***	-0.40***	1.00					
11 Grade point average	-0.10***	0.07***	0.06***	0.07***	-0.02	-0.03	0.06***	0.16***	-0.15***	-0.04**	1.00				
12 Prevocational participation	0.01	0.08***	0.23***	0.11***	-0.01	-0.08***	0.30***	0.30***	-0.27***	-0.19***	0.12***	1.00			
13 Math competence ^{a)}	-0.20***	-0.15***	0.15***	-0.16***	-0.03	0.14***	-0.04*	-0.35***	0.08***	0.35***	-0.20***	-0.20***	1.00		
14 Reading competence ^{a)}	0.09***	-0.17***	0.17***	-0.13***	-0.06***	0.15***	-0.05**	-0.38***	0.12***	0.33***	-0.22***	-0.19***	0.48***	1.00	
15 Prosocial behavior ^{a)}	0.25***	0.06***	0.05**	0.01	-0.04*	0.04*	-0.05**	-0.09***	0.06***	0.06***	-0.13***	-0.03*	-0.04*	0.06***	1.00
16 Problematic peer relationship behavior ^{a)}	-0.02	-0.00	-0.01	0.03	0.00	-0.02	0.04**	0.12***	-0.07***	-0.07***	0.06***	0.06***	-0.04*	-0.08***	-0.08***
17 Tenacious goal pursuit ^{a)}	-0.04*	0.02	0.01	0.04*	-0.02	0.00	-0.00	-0.01	0.02	-0.01	-0.10***	-0.01	0.00	-0.03	0.16***
18 Flexible goal adjustment ^{a)}	-0.05**	0.07***	0.01	0.04*	-0.05**	0.03	-0.02	0.03	0.01	-0.03	0.00	0.02	-0.05*	-0.10***	0.21***
19 Extraversion ^{a)}	0.02	0.00	-0.02	0.02	-0.04*	0.03	-0.02	-0.02	0.01	0.01	-0.02	-0.04*	-0.05**	-0.02	0.04**
20 Agreeableness ^{a)}	0.12***	0.02	-0.01	0.02	-0.01	0.00	-0.03	-0.02	0.05**	-0.02	-0.06***	0.01	-0.06***	-0.01	0.35***
21 Conscientiousness ^{a)}	0.19***	0.06***	-0.04*	0.06***	0.01	-0.05**	-0.06***	0.02	0.01	-0.03	-0.18***	-0.00	-0.12***	-0.08***	0.31***
22 Emotional stability ^{a)}	0.21***	0.02	0.02	0.02	0.02	-0.03*	0.02	0.04*	-0.04*	0.00	0.01	0.04*	-0.08***	-0.01	0.04*
23 Openness to experience ^{a)}	0.19***	0.01	0.04*	0.02	-0.09***	0.09***	-0.03	-0.07***	0.05**	0.03*	-0.04**	-0.01	0.00	0.11***	0.15***
24 Global self-esteem ^{a)}	-0.19***	0.00	-0.00	-0.03	-0.03	0.05**	-0.06***	-0.06***	0.04*	0.04**	-0.08***	-0.06***	0.09***	0.03	0.06***
25 Desired training occupation ^{a)}	-0.04*	-0.10***	-0.08***	-0.09***	0.12***	-0.08***	-0.02	-0.04*	0.09***	-0.07***	-0.07***	-0.02	0.05**	-0.01	0.04**
26 Type of training (company-based=1)	-0.22***	-0.01	-0.02	-0.00	0.05**	-0.06***	0.04**	0.03*	-0.03*	-0.02	-0.02	0.03*	0.09***	-0.03*	-0.07***
27 Satisfaction with training ^{a)}	-0.04**	-0.02	-0.07***	-0.01	0.07***	-0.08***	0.01	0.03*	-0.01	-0.03*	-0.05**	-0.01	-0.02	-0.09***	0.04*
28 Satisfaction with wages ^{a)}	-0.03	-0.03	-0.06***	-0.06***	0.01	0.04*	-0.04*	-0.06***	0.05**	0.04**	-0.09***	-0.06***	0.02	0.04*	0.05**
<i>Only for company-based apprentices:</i>															
29 Company size ^{b)}	-0.08***	-0.06***	0.08***	-0.08***	0.00	0.06***	-0.08***	-0.22***	0.13***	0.16***	-0.15***	-0.14***	0.23***	0.17***	0.02
30 Number of apprentices ^{b)}	-0.07***	-0.06***	0.07***	-0.07***	0.00	0.05**	-0.06***	-0.20***	0.11***	0.15***	-0.18***	-0.12***	0.24***	0.18***	0.03
31 Involvement in work processes ^{b)}	0.04*	-0.08***	0.06**	-0.04	0.01	0.01	-0.05**	-0.01	0.03	0.00	-0.02	0.03	-0.01	0.04	0.03

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
16 Problematic peer relationship behavior ^{a)}	1.00															
17 Tenacious goal pursuit ^{a)}	-0.07***	1.00														
18 Flexible goal adjustment ^{a)}	-0.00	0.34***	1.00													
19 Extraversion ^{a)}	-0.25***	0.20***	0.04*	1.00												
20 Agreeableness ^{a)}	-0.07***	0.06**	0.19***	-0.10***	1.00											
21 Conscientiousness ^{a)}	-0.06***	0.20***	0.12***	0.03	0.25***	1.00										
22 Emotional stability ^{a)}	0.13***	-0.18***	-0.14***	-0.25***	0.00	-0.01	1.00									
23 Openness to experience ^{a)}	0.03	0.10***	0.10***	0.05***	0.14***	0.09***	-0.03	1.00								
24 Global self-esteem ^{a)}	-0.24***	0.25***	0.16***	0.29***	0.07***	0.22***	-0.36***	0.05**	1.00							
25 Desired training occupation ^{a)}	-0.02	0.00	0.01	-0.03	0.05**	0.07***	-0.03*	-0.06***	0.06***	1.00						
26 Type of training (company-based=1)	-0.04**	0.03	-0.04*	0.00	-0.03*	-0.01	-0.07***	-0.09***	0.05**	0.04**	1.00					
27 Satisfaction with training ^{a)}	-0.06***	0.08***	0.08***	-0.02	0.07***	0.11***	-0.06***	-0.05**	0.09***	0.37***	0.03	1.00				
28 Satisfaction with wages ^{a)}	-0.09***	0.04*	0.08***	0.04*	0.06**	0.07***	-0.08***	-0.00	0.15***	0.11***	0.06***	0.27***	1.00			
<i>Only for company-based apprentices:</i>																
29 Company size ^{b)}	-0.07***	0.03	0.02	-0.01	0.01	-0.02	-0.07***	-0.02	0.05*	0.10***	-0.03	0.09***	0.14***	1.00		
30 Number of apprentices ^{b)}	-0.07***	0.04	0.03	-0.01	0.00	-0.01	-0.06**	-0.03	0.06**	0.09***	-0.08***	0.09***	0.12***	0.81***	1.00	
31 Involvement in work processes ^{b)}	0.01	0.03	0.02	0.03	0.02	0.01	-0.01	0.02	0.00	0.09***	0.03	0.08***	0.01	-0.14***	-0.16***	1.00

N= 4575; * p < 0.05, ** p < 0.01, *** p < 0.001 (two-sided tests).

^{a)} z-standardized variables (mean = 0, SD = 1); ^{b)} only for the subsample of those with contract with a company.

Source: NEPS SC4 SUF 11.0.0, authors' calculations, unweighted.

Table S4. Logistic regression on training dissolutions (AME)

	M1: Intake selection	M2: Including performance- related factors	M3: Including integration- related factors	M4: Full model
Intake selection & demographics				
Age at start of 1 st VET	0.042***	0.039***	0.032***	0.031***
Female (Ref. male)	0.050***	0.038**	0.034**	0.021
Migration background	0.025	0.024	0.006	0.003
Parental education (Ref: vocational)				
No certificate	0.050*	0.042	0.029	0.021
Tertiary certificate	0.020	0.015	-0.007	-0.007
School-leaving certificate (Ref.: intermediate)				
No certificate	0.122**	0.111**	0.106*	0.101*
Lower secondary certificate	0.125***	0.104***	0.102***	0.083***
University entrance diploma (Abitur)	-0.128***	-0.114***	-0.124***	-0.111***
Grade point average	0.072***	0.061***	0.057***	0.051***
Prevocational participation	-0.055**	-0.058**	-0.043*	-0.045**
Performance-related factors				
Math competence ^{a)}		-0.037***		-0.033***
Socioemotional skills ^{a)}				
Prosocial behavior		-0.010		-0.007
Problematic peer rel. behavior		0.013*		0.011
Tenacious goal pursuit		0.016*		0.016*
Agreeableness		-0.001		0.003
Conscientiousness		-0.016*		-0.005
Openness to experience		0.026***		0.018*
Integration-related factors				
Desired training occupation ^{a)}			-0.076***	-0.073***
Type of training (company- based = 1)			-0.011	-0.009
Satisfaction with training ^{a)}			-0.028***	-0.028***
Satisfaction with wages ^{a)}			-0.007	-0.008

N = 4575; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-sided tests). Imputed values (M = 80).

AME = average marginal effects. Dependent variable: training dissolution vs. completed VET (ref.).

^{a)} z-standardized variables (mean = 0, SD = 1).

Source: NEPS SC4 11.0.0, authors' calculations.

Table S5. Linear probability models and Shapley decompositions for training dissolutions, subsamples: types of training

	Company-based VET	Company-based VET, including company characteristics	Not company-based VET
Intake selection & demographics			
Age at start of 1 st VET	0.034 ^{***}	0.034 ^{***}	0.035 ^{**}
Female (Ref. male)	0.043 ^{**}	0.037 [*]	-0.042
Migration background	-0.006	-0.009	0.005
Parental education (Ref: vocational ed.)			
No certificate	0.024	0.021	0.035
Tertiary certificate	0.025	0.027	-0.100 ^{***}
School-leaving certificate (Ref.: intermediate)			
No certificate	0.127 [*]	0.101 [*]	0.069
Lower secondary certificate	0.128 ^{***}	0.113 ^{***}	-0.013
University entrance diploma (Abitur)	-0.135 ^{***}	-0.122 ^{***}	-0.137 ^{**}
Grade point average	0.041 ^{***}	0.034 ^{**}	0.077 ^{***}
Prevocational participation	-0.040	-0.041	-0.072 [*]
Performance-related factors			
Math competence ^{a)}	-0.029 ^{**}	-0.025 ^{**}	-0.034
Socioemotional skills ^{a)}			
Prosocial behavior	-0.011	-0.010	0.005
Problematic peer relationship behavior	0.010	0.010	0.017
Tenacious goal pursuit	0.016	0.017	0.021
Agreeableness	0.005	0.005	-0.004
Conscientiousness	-0.000	-0.002	-0.011
Openness to experience	0.015 [*]	0.014	0.025
Integration-related factors			
Desired training occupation ^{a)}	-0.100 ^{***}	-0.098 ^{***}	-0.069 ^{***}
Satisfaction with training ^{a)}	-0.031 ^{***}	-0.028 ^{**}	-0.038 ^{**}
Satisfaction with wages ^{a)}	-0.010	-0.007	-0.004
Company characteristics			
Company size		-0.016 ^{***}	
Number of apprentices		0.004	
Involvement in work processes		-0.022	
Constant	-0.554 ^{***}	-0.364 [*]	-0.531 [*]
Shapley decomposition (in % of the explained variance)			
Socio-demographics (age, gender, parental education)	6.6 ^{***}	5.8 ^{***}	15.2 ^{***}
School attainment (school-leaving certificates, GPA)	21.9 ^{***}	17.8 ^{***}	19.8 ^{***}
Prevocational training participation	1.5 ^{***}	1.3 ^{***}	1.2 ^{***}
Math competence	7.7 ^{***}	6.4 ^{***}	5.5 ^{**}
Socioemotional skills (see Table 4 in main text)	4.0 ^{***}	3.6 ^{***}	9.1 [*]
Desired training occupation	42.6 ^{***}	38.9 ^{***}	30.7 ^{***}
Satisfaction with training / wages	15.7 ^{***}	13.6 ^{***}	18.5 ^{**}
Company characteristics (company size, number of apprentices, involvement in work processes)		12.6 ^{***}	
<i>R</i> ² decomposed	0.175	0.185	0.129
<i>N</i>	3341	3341	1234

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-sided tests). Imputed values ($M = 80$).

Dependent variable: training dissolution vs. completed VET (ref.).

^{a)} z-standardized variables (mean = 0, SD = 1).

Source: NEPS SC4 11.0.0, authors' calculations.

Table S6. Shapley decomposition for successful VET completion vs. the different pathways after training dissolution (in % of the explained variance)

	Permanent dropout	Occupational stopout	Company stopout	University stopout
Intake selection & demographics				
Socio-demographics (age, gender, parental education)	16.3***	3.1**	13.3***	16.8***
School attainment (school-leaving certificates, GPA)	38.0***	19.1***	39.0***	14.7***
Prevocational training participation	4.1***	0.8***	1.8***	5.8***
Performance-related factors				
Math competence	12.4***	9.4***	6.8***	2.2***
Socioemotional skills (see Table 4 in main text)	3.5	6.2***	8.8*	12.0***
Integration-related factors				
Desired training occupation	19.3***	43.2***	10.9***	35.6***
Satisfaction with training / wages	6.4*	18.3***	19.5*	12.9*
<i>Adjusted R² decomposed</i>	<i>0.202</i>	<i>0.150</i>	<i>0.099</i>	<i>0.316</i>

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-sided tests). Imputed values ($M = 80$).

Shapley decomposition values for adjusted R^2 for a multinomial logistic regression. Dependent variable: permanent drop-out vs. occupational stopout vs. company stopout vs. university stopout vs. completed VET (ref.).

Source: NEPS SC4 11.0.0, authors' calculations.

Table S7. Linear probability models for training dissolutions by their timing

	Dissolutions <i>during</i> 1st year versus completion	Dissolutions <i>after</i> 1st year versus completion
Intake selection & demographics		
Age at start of 1 st VET	0.029***	0.014**
Female (Ref. male)	0.028*	-0.007
Migration background	-0.002	0.001
Parental education (Ref: vocational ed.)		
No certificate	0.030	0.010
Tertiary certificate	0.002	-0.017
School-leaving certificate (Ref.: intermediate)		
No certificate	0.080*	0.062
Lower secondary certificate	0.073***	0.037**
University entrance diploma (Abitur)	-0.107***	-0.064***
Grade point average	0.037***	0.031***
Prevocational participation	-0.039*	-0.026
Performance-related factors		
Math competence ^{a)}	-0.024**	-0.014*
Socioemotional skills ^{a)}		
Prosocial behavior	-0.005	-0.002
Problematic peer relationship behavior	0.010	0.004
Tenacious goal pursuit	0.016*	0.006
Agreeableness	0.002	0.002
Conscientiousness	-0.000	-0.005
Openness to experience	0.010	0.011*
Integration-related factors		
Desired training occupation ^{a)}	-0.101***	-0.008
Type of training (company-based = 1)	0.015	-0.032**
Satisfaction with training ^{a)}	-0.025**	-0.023***
Satisfaction with wages ^{a)}	-0.011	0.002
Constant	-0.492***	-0.220**
<i>N</i>	4293	3871

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-sided tests). Imputed values ($M = 80$).

Dependent variable: training dissolution vs. completed VET (ref).

^{a)} z-standardized variables (mean = 0, SD = 1).

Source: NEPS SC4 11.0.0, authors' calculations.

Table S8. Shapley decomposition for training dissolution by their timing with reading competence (in % of the explained variance)

	Dropout during 1st year	Dropout after 1st year
Intake selection & demographics		
Socio-demographics (age, gender, parental education)	6.7***	8.3***
School attainment (school-leaving certificates, GPA)	16.1***	49.7***
Prevocational training participation	1.0***	2.4***
Performance-related factors		
Reading competence	1.1***	3.9***
Socioemotional skills (see Table 4 in main text)	3.7***	9.6**
Integration-related factors		
Desired training occupation	54.4***	6.9***
Satisfaction with training / wages	17.0***	19.2***
Total	100.0	100.0
<i>R² decomposed</i>	<i>0.163</i>	<i>0.043</i>
<i>N (dropout/completion)</i>	<i>740 / 3589</i>	<i>282 / 3589</i>
<i>N</i>	<i>4293</i>	<i>3871</i>

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-sided tests). Imputed values ($M = 80$).

Shapley decomposition values for R^2 for linear regressions. Dependent variable: training dissolution vs. completed VET (ref.).

Source: NEPS SC4 11.0.0, authors' calculations.

Table S9. Shapley decomposition for training dissolution by their timing including all available socioemotional skills (in % of the explained variance)

	Dissolutions during 1st year	Dissolutions after 1st year
Intake selection & demographics		
Socio-demographics (age, gender, parental education)	6.7***	7.4***
School attainment (school-leaving certificates, GPA)	15.8***	42.1***
Prevocational training participation	1.0***	2.2***
Performance-related factors		
Math competence	1.1***	12.4***
Socioemotional skills (see Table 1 in main text)	4.7**	10.9***
Integration-related factors		
Desired training occupation	53.8***	6.5***
Satisfaction with training / wages	16.9***	18.6***
Total	100.0	100.0
<i>R² decomposed</i>	<i>0.164</i>	<i>0.045</i>
<i>N (dropout/completion)</i>	<i>704 / 3589</i>	<i>282 / 3598</i>
<i>N</i>	<i>4293</i>	<i>3871</i>

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-sided tests). Imputed values ($M = 80$).

Shapley decomposition values for R^2 for linear regressions. Dependent variable: training dissolution vs. completed VET (ref.).

Source: NEPS SC4 11.0.0, authors' calculations.