

Appendix

Table 1: Overview of variables

	N	Missing values	%/M	SD	Min	Max
Dependent variables						
Type of class attended	1,873	6	0.50	0.50	0 (regular)	1 (newcomer)
Type of school attended						
with newcomer class	1,853	26	0.24	0.43	0 (other)	1 (<i>Gymnasium</i>)
without newcomer class	933	7	0.19	0.39	0 (other)	1 (<i>Gymnasium</i>)
Legal regulations						
Regulations for type of class	1,879	0				
Schooled primarily in separate classes			14.95%			
Schooled more flexibly			78.77%			
Schooled primarily in regular classes			6.28%			
Regulation for type of school	1,879	0				
Enrollment mainly at lower school types			20.44%			
Enrollment more flexible			79.56%			
Regional factors (year before enrolment)						
Number of people seeking protection ¹	1,846	33	12,619.24	11,893.31	199.44	52,537.76
Share of migrants (2011)	1,879	0	26.81	7.21	2.79	37.34
Number of secondary schools	1,846	33	59.21	45.90	5	165
Number of <i>Hauptschulen</i>	1,846	33	7.04	7.63	0	63
Pupil-teacher ratio (secondary schools)	1,846	33	19.58	1.48	15.64	23.39
Pupil-teacher ratio (other secondary schools but <i>Gymnasien</i>)	1,846	33	18.73	1.33	14.43	23.66
Pupil-teacher ratio (<i>Gymnasien</i>)	1,846	33	20.84	2.18	17.04	28.87
Segregation Index	1,828	51	25.85	6.10	12.30	74.65
Individual and familial characteristics						
Highest parental ISCED	1,807	72				
No/less than primary education			33.54%			
Primary education			9.74%			
Secondary I + II education			30.77%			
Postsecondary/tertiary education			25.95%			
Highest parental ISEI-08	1,518	361	45.35	25.93	0	88.96
Previous educational experiences						
Self-assessed school performance	1,691	188	76.99	20.61	0	100
Urbanity						
>500.000 inhabitants	1,879	0	68.12%			
100.000-500.000 inhabitants			31.88%			
Sex						
Male	1,879	0	54.23%			
Female			45.77%			
Age (at arrival, in months)	1,879	0	161.74	13.53	124	203
Origin country						
Afghanistan	1,879	0	8.46%			
Iraq			13.15%			
Syria			70.36%			
Other			8.04%			
Residence status						
Secure	1,645	234	67.70%			
Insecure			32.40%			

Notes:

¹Based on this indicator the number of people seeking protection/1,000 and (the number of people seeking protection/1,000)² is constructed.

Table 2: Multi-level models on attending a newcomer class as dependent variable

	Base model	H1a	H1b	H1c1	H1c2	H2a	H2b1	H2b2	H3a	H3b	H4a	H4b1	H4b2	Full model
Educational policy regulations (*ref.: assigned more flexibly)														
Primarily schooled in separate classes	0.046 (0.140)	-0.181 (0.168)	-0.183 (0.169)	-0.186 (0.169)	-0.185 (0.169)	0.050 (0.139)	0.050 (0.138)	0.051 (0.138)	0.213 (0.200)	0.187 (0.199)	0.038 (0.143)	0.037 (0.144)	0.041 (0.144)	0.065 (0.222)
Primarily schooled in regular classes	-0.282*** (0.077)	-0.253** (0.080)	-0.252** (0.082)	-0.250** (0.082)	-0.251** (0.082)	-0.276*** (0.078)	-0.277*** (0.078)	-0.275*** (0.078)	-0.319*** (0.084)	-0.342*** (0.084)	-0.289*** (0.081)	-0.287*** (0.081)	-0.288*** (0.082)	-0.299*** (0.090)
Highest parental ISCED (*ref.: secondary I+II education)														
No/less than primary education	-0.069* (0.031)	-0.072* (0.031)	-0.072* (0.031)	-0.075 (0.043)	-0.072* (0.031)	-0.068* (0.031)	-0.059 (0.105)	-0.069* (0.031)	-0.069* (0.031)	-0.072* (0.031)	-0.069* (0.031)	-0.333 (0.376)	-0.069* (0.031)	-0.071* (0.031)
Primary education	0.003 (0.042)	0.000 (0.042)	0.000 (0.042)	0.071 (0.065)	0.000 (0.042)	0.003 (0.042)	0.036 (0.157)	0.003 (0.042)	0.002 (0.042)	0.005 (0.043)	0.003 (0.042)	-0.543 (0.579)	0.003 (0.042)	-0.002 (0.042)
Postsecondary/tertiary education	-0.097*** (0.034)	-0.097** (0.033)	-0.097** (0.034)	-0.061 (0.047)	-0.097*** (0.034)	-0.097** (0.034)	-0.014 (0.115)	-0.097*** (0.034)	-0.097*** (0.034)	-0.093** (0.034)	-0.097** (0.034)	-0.447 (0.406)	-0.096** (0.034)	-0.095** (0.034)
Highest ISEI-08 (parents)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)	-0.001* (0.001)
Self-assessed school performance (origin country)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.002 (0.002)	-0.000 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.007 (0.008)	-0.000 (0.001)
Degree of urbanity (*ref.: >500.000 inhabitants)														
100.000–500.000 inhabitants	-0.056 (0.051)	-0.027 (0.053)	-0.026 (0.055)	-0.025 (0.055)	-0.027 (0.055)	-0.058 (0.050)	-0.058 (0.050)	-0.057 (0.050)	-0.089 (0.058)	-0.058 (0.059)	-0.052 (0.052)	-0.053 (0.052)	-0.052 (0.053)	-0.070 (0.064)
Gender: Female	-0.025 (0.022)	-0.025 (0.022)	-0.025 (0.022)	-0.025 (0.022)	-0.025 (0.022)	-0.025 (0.022)	-0.025 (0.022)	-0.024 (0.022)	-0.024 (0.022)	-0.017 (0.023)	-0.025 (0.022)	-0.024 (0.022)	-0.024 (0.022)	-0.024 (0.022)
Age at arrival (in months)	0.004*** (0.001)	0.003** (0.001)	0.003** (0.001)	0.003** (0.001)	0.003** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.003** (0.001)
Origin country (*ref.: Syria)														
Afghanistan	-0.090* (0.044)	-0.094* (0.044)	-0.094* (0.044)	-0.100* (0.045)	-0.095* (0.044)	-0.090* (0.044)	-0.090* (0.044)	-0.090* (0.044)	-0.087* (0.044)	-0.095* (0.045)	-0.090* (0.044)	-0.092* (0.044)	-0.087* (0.044)	-0.089* (0.044)
Iraq	0.028 (0.034)	0.024 (0.034)	0.024 (0.034)	0.023 (0.034)	0.024 (0.034)	0.029 (0.034)	0.029 (0.034)	0.029 (0.034)	0.029 (0.034)	0.037 (0.035)	0.028 (0.034)	0.028 (0.034)	0.028 (0.034)	0.024 (0.034)
Other	-0.060 (0.042)	-0.061 (0.042)	-0.060 (0.042)	-0.058 (0.042)	-0.060 (0.042)	-0.059 (0.042)	-0.059 (0.042)	-0.059 (0.042)	-0.059 (0.042)	-0.066 (0.043)	-0.060 (0.042)	-0.060 (0.042)	-0.061 (0.042)	-0.057 (0.042)
Residence status: Insecure residence status	0.027 (0.027)	0.026 (0.027)	0.026 (0.027)	0.027 (0.027)	0.027 (0.027)	0.026 (0.027)	0.026 (0.027)	0.027 (0.027)	0.027 (0.027)	0.024 (0.027)	0.027 (0.027)	0.026 (0.027)	0.026 (0.027)	0.024 (0.027)

Table 2 continued

	Base model	H1a	H1b	H1c1	H1c2	H2a	H2b1	H2b2	H3a	H3b	H4a	H4b1	H4b2	Full model
Regional variables														
Refugees		0.008** (0.003)	0.008 (0.006)	0.010 (0.006)	0.009 (0.007)									0.014* (0.006)
Refugees ²			-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)									-0.000 (0.000)
Share of immigrants						-0.001 (0.003)	-0.000 (0.004)	-0.006 (0.006)						-0.003 (0.003)
Number of secondary schools									-0.002 (0.001)	-0.004 (0.004)				-0.003* (0.001)
Pupil-teacher ratio											0.005 (0.018)	-0.007 (0.022)	-0.022 (0.036)	0.007 (0.020)
Segregation index										-0.008 (0.008)				
Interaction effects														
No/less than primary (parents)#refugees				-0.000 (0.002)										
Primary education (parents)#refugees				-0.006 (0.004)										
Postsecondary/tertiary education (parents)#refugees				-0.003 (0.003)										
Average school performance (parents)#refugees					-0.000 (0.000)									
No/less than primary (parents)#share of immigrants							-0.000 (0.004)							
Primary education (parents)#share of immigrants							-0.001 (0.006)							
Postsecondary/tertiary education (parents)# share of immigrants							-0.003 (0.004)							
Self-assessed school performance#share of immigrants								0.000 (0.000)						
Number of secondary schools#segregation index										0.000 (0.000)				
No/less than primary (parents)#pupil- teacher ratio												0.014 (0.019)		
Primary education (parents)# pupil- teacher ratio												0.028 (0.030)		
Postsecondary/tertiary education (parents)#pupil-teacher ratio												0.018 (0.021)		
Self-assessed school performance #pupil-teacher ratio													0.000 (0.000)	
N (individual level)	1,873	1,873	1,873	1,873	1,873	1,873	1,873	1,873	1,873	1,873	1,873	1,873	1,873	1,873
N (municipality level)	66	66	66	66	66	66	66	66	66	66	66	66	66	66

Note: The results present the values of the regression coefficients with their standard errors in brackets. Significance levels are indicated with *** p<0.001, ** p<0.01, * p<0.05.

Table 3: Multi-level models on attending a *Gymnasium* as dependent variable (including those attending a newcomer class)

	Base model	H5a	H5b1	H5b2	H6a	H6b	H6c1	H6c2	Full model
Educational policy regulations (*ref.: enrollment more flexible)									
Enrolment at lower school types	-0.207*** (0.038)	-0.210*** (0.038)	-0.211*** (0.039)	-0.210*** (0.038)	-0.200*** (0.038)	-0.196*** (0.039)	-0.196*** (0.039)	-0.196*** (0.039)	-0.199*** (0.040)
Highest parental ISCED (*ref.: secondary I+II education)									
No/less than primary education	-0.031 (0.027)	-0.031 (0.027)	-0.041 (0.035)	-0.031 (0.027)	-0.032 (0.027)	-0.032 (0.027)	-0.037 (0.037)	-0.032 (0.027)	-0.032 (0.027)
Primary education	0.011 (0.037)	0.011 (0.037)	0.016 (0.053)	0.011 (0.037)	0.010 (0.037)	0.010 (0.037)	0.000 (0.056)	0.008 (0.037)	0.010 (0.037)
Postsecondary/tertiary education	0.063* (0.029)	0.063* (0.029)	0.055 (0.039)	0.062* (0.029)	0.064* (0.029)	0.063* (0.029)	0.060 (0.040)	0.063* (0.029)	0.062* (0.029)
Highest ISEI-08 (parents)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Self-assessed school performance (origin country)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002* (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.001 (0.001)	0.002*** (0.001)
Degree of urbanity (*ref.: >500.000 inhabitants)									
100.000–500.000 inhabitants	-0.086* (0.034)	-0.080* (0.035)	-0.080* (0.036)	-0.080* (0.035)	-0.072* (0.036)	-0.064 (0.038)	-0.065 (0.038)	-0.063 (0.038)	-0.061 (0.039)
Gender: Female	0.007 (0.019)	0.007 (0.019)	0.007 (0.019)	0.007 (0.019)	0.007 (0.019)	0.007 (0.019)	0.007 (0.019)	0.007 (0.019)	0.007 (0.019)
Age at arrival (in months)	0.001* (0.001)	0.001* (0.001)	0.001* (0.001)	0.001* (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Origin country (*ref.: Syria)									
Afghanistan	0.031 (0.038)	0.030 (0.038)	0.030 (0.038)	0.030 (0.038)	0.028 (0.038)	0.027 (0.038)	0.026 (0.038)	0.031 (0.038)	0.027 (0.038)
Iraq	-0.044 (0.030)	-0.045 (0.030)	-0.046 (0.030)	-0.044 (0.030)	-0.046 (0.030)	-0.046 (0.030)	-0.046 (0.030)	-0.046 (0.030)	-0.046 (0.030)
Other	-0.013 (0.036)	-0.013 (0.036)	-0.014 (0.036)	-0.013 (0.036)	-0.015 (0.036)	-0.013 (0.036)	-0.013 (0.036)	-0.014 (0.036)	-0.013 (0.036)
Residence status: Insecure residence status	0.003 (0.023)	0.004 (0.023)	0.003 (0.023)	0.004 (0.023)	0.004 (0.023)	0.003 (0.023)	0.003 (0.023)	0.002 (0.023)	0.004 (0.023)

Table 3 continued

	Base model	H5a	H5b1	H5b2	H6a	H6b	H6c1	H6c2	Full model
Regional variables									
Number of <i>Hauptschulen</i>		0.001 (0.002)	0.001 (0.003)	0.000 (0.005)					0.001 (0.002)
Refugees					0.002 (0.002)	0.005 (0.004)	0.005 (0.004)	0.001 (0.005)	0.004 (0.004)
Refugees ²						-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Interaction effects									
No/less than primary (parents)#number of <i>Hauptschulen</i>			0.001 (0.003)						
Primary education (parents)#number of <i>Hauptschulen</i>			-0.000 (0.005)						
Postsecondary/tertiary education (parents)#number of <i>Hauptschulen</i>			0.001 (0.004)						
Self-assessed school performance#number of <i>Hauptschulen</i>				0.000 (0.000)					
No/less than primary (parents)#refugees							0.000 (0.002)		
Primary education (parents)#refugees							0.001 (0.004)		
Postsecondary/tertiary education (parents)#refugees							0.000 (0.003)		
Self-assessed school performance#refugees								0.000 (0.000)	
N (individual level)	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853
N (municipality level)	66	66	66	66	66	66	66	66	66

Note: The results present the values of the regression coefficients with their standard errors in brackets. Significance levels are indicated with *** p<0.001, ** p<0.01, * p<0.05.

Table 4: Multi-level models on attending a *Gymnasium* as dependent variable (excluding those attending a newcomer class)

	Base model	H7	H8a	H8b1	H8b2	Full model
Educational policy regulations (*ref.: enrollment more flexible)						
Enrolment at lower school types	-0.154*** (0.035)	-0.169*** (0.034)	-0.120*** (0.035)	-0.120*** (0.035)	-0.120*** (0.035)	-0.127*** (0.036)
Highest parental ISCED (*ref.: secondary I+II education)						
No/less than primary education	-0.028 (0.035)	-0.027 (0.035)	-0.026 (0.035)	-0.011 (0.472)	-0.026 (0.035)	-0.027 (0.035)
Primary education	-0.022 (0.049)	-0.020 (0.049)	-0.016 (0.049)	0.224 (0.673)	-0.017 (0.049)	-0.015 (0.049)
Postsecondary/tertiary education	0.108** (0.036)	0.110** (0.036)	0.115** (0.036)	-0.286 (0.478)	0.114** (0.036)	0.115** (0.036)
Highest ISEI-08 (parents)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Self-assessed school performance (origin country)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.003 (0.009)	0.002*** (0.001)
Degree of urbanity (*ref.: >500.000 inhabitants)						
100.000–500.000 inhabitants	-0.040 (0.031)	-0.047 (0.030)	-0.029 (0.026)	-0.029 (0.026)	-0.029 (0.027)	-0.034 (0.027)
Gender: Female	0.037 (0.025)	0.038 (0.025)	0.039 (0.025)	0.040 (0.025)	0.039 (0.025)	0.039 (0.025)
Age at arrival (in months)	0.002 (0.001)	0.002 (0.001)	0.002* (0.001)	0.002* (0.001)	0.002* (0.001)	0.002* (0.001)
Origin country (*ref.: Syria)						
Afghanistan	0.008 (0.046)	0.011 (0.045)	0.011 (0.045)	0.016 (0.046)	0.011 (0.046)	0.009 (0.045)
Iraq	-0.021 (0.038)	-0.021 (0.038)	-0.016 (0.038)	-0.016 (0.038)	-0.016 (0.038)	-0.015 (0.038)
Other	0.006 (0.044)	0.009 (0.044)	-0.002 (0.045)	0.000 (0.045)	-0.002 (0.045)	-0.004 (0.045)
Residence status:	-0.019 (0.028)	-0.021 (0.028)	-0.019 (0.028)	-0.023 (0.028)	-0.019 (0.028)	-0.021 (0.028)
Insecure residence status						

Table 4 continued

Regional variables						
Share of immigrants		-0.002 (0.002)				-0.002 (0.002)
Pupil-teacher ratio (<i>Gymnasium</i>)			0.017* (0.008)	0.024 (0.014)	0.016 (0.024)	0.017* (0.008)
Pupil-teacher ratio (other secondary schools)			0.008 (0.010)	-0.004 (0.019)	0.010 (0.039)	0.005 (0.011)
No/less than primary (parents)#pupil-teacher ratio (<i>Gymnasium</i>)				-0.016 (0.017)		
Primary education (parents)#pupil-teacher ratio (<i>Gymnasium</i>)				-0.017 (0.027)		
Postsecondary/tertiary education (parents)#pupil-teacher ratio (<i>Gymnasium</i>)				0.003 (0.019)		
No/less than primary (parents)#pupil-teacher ratio (other secondary schools)				0.017 (0.027)		
Primary education (parents)#pupil-teacher ratio (other secondary schools)				0.006 (0.040)		
Postsecondary/tertiary education (parents)#pupil-teacher ratio (other secondary schools)				0.018 (0.026)		
Self-assessed school performance#pupil-teacher ratio (<i>Gymnasium</i>)					0.000 (0.000)	
Self-assessed school performance#pupil-teacher ratio (other secondary schools)					-0.000 (0.000)	
N (individual level)	933	933	933	933	933	933
N (municipality level)	62	62	62	62	62	62

Note: The results present the values of the regression coefficients with their standard errors in brackets. Significance levels are indicated with *** p<0.001, ** p<0.01, * p<0.05.