

Upper secondary track decision What educational aspirations can tell about social disparities

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Theoretical framework

In the **subjective expected utility (SEU) theory** social disparities in educational decisions (outcomes) are explained by primary and secondary effects of social origin (Keller and Zavalloni, 1964; Boudon, 1974; Erikson and Jonsson, 1996; Breen and Goldthorpe, 1997; Esser, 1999). **Primary effects of social origin** describe class differentials in parental support and learning environments, that affect school performance and educational participation. **Secondary effects of social origin** point out to persistent differences in educational decisions due to group specific educational aspirations when school performance is held constant. Aspirations entail subjectively perceived costs (C), benefit (B) and success probability (p) as well as the importance of status maintenance (SM) and the expectation, that an educational alternative is suitable for status maintenance (c). Accordingly, the decision between educational tracks is modeled as a function of subjective expectations, that should cancel out social disparities in educational outcomes.

Following Esser (1999), the parameters can be transformed into a multiplicative model with a term representing the perceived **educational motivation** ($B + cSM$) and a term representing the **investment risk** (C/p), respectively. To opt for educational track (A_o) is the more likely the higher the perceived educational motivation and the lower the expected investment risk for this track ($B + cSM > C/p$) relative to other educational alternatives ($A_p \dots A_t$).

Theoretical extension

Empirical evidence at different stages of educational transitions supports the assumptions of the SEU theory. Nevertheless, in most studies changes in aspirations and in the subjective expectations of educational tracks over time are ignored. As the remaining time before leaving lower secondary education decreases and the majority of the students succeeds in finding an upper secondary education, the more should students tend to positively adjust and to have more realistic aspirations regarding the upper secondary tracks (Paulus and Blossfeld, 2007). Hence, taking into account both, educational aspirations at the beginning of the decision process as well as their change over time should enhance the prediction of educational decision.

Hypothesis

- When controlling for school performance, secondary effects of social origin should cancel out social disparities in educational outcomes.
- The higher the perceived educational motivation and the lower the investment risk for a given upper secondary track, the more likely that students opt for this track.
- Considering changes of educational aspirations over time does enhance the prediction of the educational decision.

Research Questions

1. What is the contribution of secondary effects of social origin (educational aspirations) to explain social disparities at the transition to upper secondary education regarding the decision to start vocational professional education and training (VPET), vocational baccalaureate or baccalaureate school?
2. Can the prediction of the educational decision be enhanced by accounting for changes of educational aspirations over time?

DAB-Data

Analyses are conducted with panel data from the DAB (Determinanten der Ausbildungswahl und der Berufsbildungschancen) research project. DAB is financed by the State Secretariat for Education, Research and Innovation (SERI) and executed by the Department of Sociology of Education at the University of Bern.

The survey population of DAB are 8th grade classes from public schools from German speaking cantons (school year 2011/12). The stratified sample represents a 10%-sample of 8th grade classes within 9 municipality types, that also accounts for the relative share of lower secondary school types and the migration population within schools.

	Wave 1 Jan./Feb. 2012	Wave 2 Aug.-Oct. 2012	Wave 3 Mai/Jun. 2013	follow up Autumn 2014
Initial sample (classes; G _c)	296	215	203	-
Realized sample (classes; N _c)	215	203	199	-
Initial sample (pupils; G _p)	3'894	3'707	3'436	-
new pupils		152	68	
pupils changing school (thereof contactable G _{pi})		703 (409)	741 (470)	
final drop out by wave (thereof changing school)		339 (294)	395 (271)	
Observations				
Pupils (N _p)	3'680	3'343	3'302	
class room interviews (N _{pc})	3'680	3'112	3'091	
contacted pupils (N _{pi})		231	211	
Parents (N _{pa})	2'302	-	-	-
Response rate in %				
Classes (N _c : G _c)	73%	94%	98%	
Pupils (N _p : G _p)	95%	90%	96%	
class room interviews (N _{pc} : N _p)	100%	93%	94%	
contacted pupils (N _{pi} : G _{pi})	-	56%	45%	
Parents (N _{pa} : N _p)	63%	-	-	-

Sample & method

- **Sample:** Students from the school type with advanced requirements (N = 1272)
- **Method:**
 - 1st step: OLS-regressions with pooled data (N = 3'813) on subjective estimations (single & multiplicative terms) ⇒ results not shown
 - 2nd step: Conditional logistic regression models with pooled data (N = 3'813) on decision to start vocational professional education and training (VPET), vocational baccalaureate or baccalaureate school (see table on the right)

Results

- As can be seen from **model 1**, there are significant social disparities regarding the decision to start vocational baccalaureate or baccalaureate school compared to VPET.
 - Students from the lower social classes do have lower chances to start the more demanding upper secondary tracks compared to students from the highest social class (EGP class I).
- When secondary effects of social origin (educational motivation and investment risk) are controlled for, the effects of social origin are no longer significant (**model 2**).
 - As theoretically predicted, the higher (lower) the perceived educational motivation (investment risk) for a given upper secondary track, the higher (lower) the chances to start this track.
- Changes of educational aspirations between t2 to t3 enhance the prediction of the educational decision (**model 3**).
 - If the perceived educational motivation (investment risk) for a given upper secondary track is increasing over time, the higher (lower) the chances to start this track.
- **Overall:** The chance to start baccalaureate school compared to VPET is higher for young women and for students with better grades.

Conclusion

While social disparities at the transition to upper secondary education for students from the school type with advanced requirements can already be explained by perceived educational motivation and investment risk, the prediction of the decision is enhanced when changes of aspirations over time are taken into account. **Technical note:** Because average marginal effects (AME's) have not been computed, a direct comparison between the sizes of odds ratios and the improvement of fit between models has to be interpreted with caution.

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	Model 1	Model 2	Model 3
Vocational baccalaureate			
Grade in German	1.346 ⁺ (1.74)	1.258 (1.25)	1.182 (0.85)
Grade in mathematics	1.821 ^{***} (4.40)	1.948 ^{***} (4.42)	1.990 ^{***} (4.26)
Women	0.851 (-1.07)	0.911 (-0.58)	1.037 (0.21)
EGP class II	0.755 (-1.18)	0.845 (-0.65)	0.869 (-0.52)
EGP classes III, IV	0.660 ⁺ (-1.89)	0.842 (-0.73)	0.893 (-0.46)
EGP classes V, VI, VII	0.633 ⁺ (-1.95)	0.683 (-1.49)	0.692 (-1.38)
EGP class missing	0.685 (-1.16)	0.689 (-1.03)	0.648 (-1.18)
Baccalaureate school			
Grade in German	2.463 ^{***} (4.39)	2.216 ^{***} (3.53)	1.810* (2.40)
Grade in mathematics	1.870 ^{***} (3.94)	1.873 ^{***} (3.77)	2.062 ^{***} (3.93)
Women	1.913 ^{***} (4.12)	1.875 ^{***} (3.74)	2.502 ^{***} (4.98)
EGP class II	0.730 (-1.38)	1.185 (0.68)	1.157 (0.52)
EGP classes III, IV	0.479 ^{***} (-3.34)	0.835 (-0.75)	0.936 (-0.26)
EGP classes V, VI, VII	0.375 ^{***} (-3.97)	0.648 (-1.62)	0.635 (-1.56)
EGP class missing	0.780 (-0.76)	1.006 (0.02)	0.873 (-0.35)
Theoretical parameters			
Educational motivation t2		1.127 ^{***} (9.18)	1.277 ^{***} (13.17)
Investment risk t2		0.498 ^{***} (-6.97)	0.541 ^{***} (-6.41)
Δ Educational motivation (t3 - t2)			1.213 ^{***} (10.74)
Δ Investment risk (t3 - t2)			0.762 ^{***} (-6.11)
Pseudo-R ²	0.057	0.200	0.289
Wald χ ²	102.2 ^{***}	257.3 ^{***}	353.1 ^{***}
Observations	3'813	3'813	3'813
Number of clusters	1'271	1'271	1'271

Data: DAB-Panel; Exponentiated coefficients; z statistics in parentheses
+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001