

Educational background as a fault line for study success

Presentation at the ESA 2017, Athens, August 31st 2017

Sören Isleib

German Centre for Higher Education Research and Science Studies (**DZHW**)

- Study decision and educational pathways -

isleib@dzhw.eu

Introduction: Definition and thematical relevance

- **Higher education dropout (HED):** Leaving the higher education system after a first enrolment at a german higher education institution (HEI) without any exam (Heublein et al. 2010) → changing the HEI or field of study no HED
- **Relevance by costs:** (Cabrera et al. 2006; Sarcletti & Müller 2011; Thomas & Hovdhaugen 2014)
 - Macro-level: economic (innovation potential, high qualified professionals)
 - Meso-level („performance-based funding“; Thomas & Hovdhaugen 2014)
 - Micro-level (time, financial, emotional, opportunity costs)
- „dropping out relates to issues of **social inequality**“ (Müller & Schneider 2013: 218)
- Dropout rate: 29%, mainly due to study performance problems (30%), lacking motivation (17%)

The German Education System: Pathways to HE

- Early tracking, high differentiation, high stratification (Allmendinger 1989)
 - Pathway at secondary level → Higher Education (HE)
 - Gymnasium: standard way, academic education, covers whole secondary level Grades 5 to 12 → full access to higher education
 - Realschule: Grades 5 to 10
 - Hauptschule: Grades 5 to 9
- Additional alternative pathways → HE
- Educational expansion: opening HE (for persons from non-academic families), LLL → broaden pathways to HE additional to the Gymnasium

Linking background and HED: Pathways

- Social inequality not in HE itself but in pathways leading to HE (Hillmert & Jacob 2010), educational pathways class-specific (Becker & Hecken 2009)
- Children from (partly) academic families use the direct pathway via Gymnasium to HE more often (primary and secondary effects (Boudon 1974), maintaining status (Esser 1999))
- Non-academic counterparts use the alternative pathways (primary and secondary effects (Boudon 1974), relative risk aversion (Breen & Goldthorpe 1997))
- School types differ in their social structure, learning/teaching profiles and culture, progression in competencies → Gymnasium > alternative pathways

Research questions

Educational background and educational pathways seem to be linked.

What does this mean for HED?

Which combination of background and pathways is most promising to avoid HED?

How can these influences be mediated?

Measuring background and pathways

- Combining educational background (Müller & Schneider 2013, Isleib & Heublein 2016) and upper secondary education (Dahm & Kerst, 2016, Müller & Schneider 2013) → four groups
 - no academic parents & „alternative“ pathway
 - Academic parents & „alternative“ pathway
 - No academic parents & „direct“ pathway
 - Academic parents & „direct“ pathway
- Vocational training (Isleib & Heublein 2016, Müller & Schneider 2013)
- School achievements (Brandstätter & Farthofer 2002; Hadjar & Becker 2004)

Mediating factors

- Choice of study subject (Blüthmann et al. 2008): intrinsic (requested subject), extrinsic (index, 5-point scale), advice by others (index, 5-point scale)
- Information about study conditions (single item, 5-point scale)
- Course scientific working (Blüthmann et al. 2008): attended/not attended
- Study behavior (Heublein et al. 2017)
 - Preparing/reworking courses (index, 5-point-scale)
 - Exam performance (single item, 5-point-scale)
 - Social integration (Tinto 1975) (Index, 5-point-scale)
- External factors (Isleib & Heublein 2016)
 - Financing issues (single item, 5-point-scale)
 - working hours per week (four dummies)

Data and operationalisation

- Own survey conducted by the DZHW
- Funded by the Federal Ministry of Education and Research
- Graduates & dropouts of summer semester 2014 (ends 09/2014)
- Field period three to six month after withdrawal from HEI (online & paper pencil)
- Sample: 80 HEIs nationwide, n = 9.000

Logistic regression on higher education dropout¹, average marginal effects (AME)

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|--|------------|------------|------------|------------|------------|------------|
| <i>Sociodemography</i> | | | | | | |
| Age at study entry | 0.00 | - 0.00 | - 0.00 | 0.00 | 0.00 | - 0.00 |
| Male, Ref. Female | 0.07 *** | 0.04 * | 0.04 * | 0.04 * | 0.05 ** | 0.05 ** |
| <i>Social background and educational pathways</i> | | | | | | |
| Academ. Background/alternative pathway | - 0.05 | - 0.05 | - 0.04 | - 0.03 | - 0.03 | - 0.02 |
| No academ. Background/direct pathway | - 0.09 ** | - 0.13 *** | - 0.13 *** | - 0.13 *** | - 0.11 *** | - 0.10 *** |
| Academ. Background/direct pathway | - 0.19 *** | - 0.19 *** | - 0.19 *** | - 0.19 *** | - 0.15 *** | - 0.13 *** |
| Vocational training | | - 0.01 | - 0.00 | - 0.01 | - 0.02 | - 0.02 |
| GPA Higher education entrance certificate | | 0.02 *** | 0.02 *** | 0.02 *** | 0.01 *** | 0.01 *** |
| <i>Choice of study subject & transition to Higher Education</i> | | | | | | |
| Requested subject | | | - 0.16 *** | - 0.16 *** | - 0.10 *** | - 0.09 *** |
| Extrinsic motives | | | 0.04 *** | 0.04 *** | 0.03 *** | 0.03 *** |
| Advice by others | | | 0.03 *** | 0.03 *** | 0.03 *** | 0.03 *** |
| Information level study conditions | | | | 0.01 | 0.04 *** | 0.04 *** |
| Attended course "scientific working" | | | | - 0.09 *** | - 0.05 ** | - 0.05 ** |
| <i>Study behavior</i> | | | | | | |
| Social integration: Staff | | | | | - 0.09 *** | - 0.09 *** |
| Social integraton: Students | | | | | - 0.06 *** | - 0.06 *** |
| Preparation/reworking courses | | | | | 0.02 * | 0.01 |
| Exam performance | | | | | - 0.05 *** | - 0.04 *** |
| Perception of study conditions | | | | | - 0.03 *** | - 0.03 *** |
| <i>External factors</i> | | | | | | |
| Precarious financial situation | | | | | | 0.05 *** |
| Working hours/week: non-working, Ref. 1-9h | | | | | | 0.11 *** |
| Working hours/week: 10-19h, Ref. 1-9h | | | | | | 0.00 |
| Working hours/week: >19h, Ref. 1-9h | | | | | | 0.08 ** |
| Pseudo-R² | 0.09 | 0.14 | 0.17 | 0.18 | 0.25 | 0.28 |
| Number of observations | 3195 | 3195 | 3195 | 3195 | 3195 | 3195 |
| AIC | 4004 | 3803 | 3660 | 3637 | 3310 | 3212 |

* p<0.05, ** p<0.01, *** p<0.001

1) Type of Higher education institution, type of degree and field of study controlled

Discussion

- Academic educational background **and** direct pathway lowest dropout risk
- Using the alternative pathway: educational background seems to be **no advantage**
- Using the direct pathway: no evidence (from this model **and** by changing the reference category)
- Non-academic/direct pathways > academic/“low” pathway → **pathway against the odd**
- reducing effects and some convergence between the four groups due to **study behavior** and **external factors**

Educational pathways seem to be more crucial for HED than educational background. Because both factors are linked, pathways „contain“ and foster social inequality. Preventing a dropout means to choose the right pathway to Higher Education.

Thank you!

For further information:

Sören Isleib

German Centre for Higher Education Research and Science Studies (DZHW)

isleib@dzhw.eu

+49 511 450 670 195