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### **Academic and Vocational Pathways to Higher Education: Does the Regional Provision of Education Moderate Social and Gender-specific Inequalities in Switzerland?**

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Educational reforms in several European countries have increased students' access to higher education (HE) through the development of vocationally orientated secondary school programmes. In Switzerland, the emergence of universities of applied science was accompanied by the introduction of the Federal Vocational Baccalaureate in 1994 (Imdorf et al. 2017). These reforms aimed at opening up new pathways to HE (institutional permeability) as well as at reducing educational inequalities by providing access to HE to pupils from lower-class backgrounds (social permeability). The question whether these newly established pathways to HE have the potential to bring more young people into higher education and whether they are less socially selective compared to the traditional general education pathway is of high relevance in the light of the current European policy agenda to make access to HE more socially inclusive. Permeability between vocational and higher education is thereby considered key to enhancing the accessibility of the latter for students from less privileged social backgrounds (Bernhard 2018).

Imdorf et al. (2017) have shown that vocationally orientated tracks to HE differ in their social inclusiveness. Whereas the French *baccalauréat professionnel* primarily enables HE access for female students from socially disadvantaged families, it is men from socially advantaged backgrounds who use the Swiss vocational baccalaureate first and foremost. Still, vocationally orientated secondary schools are essential in Switzerland to enable HE access. Even though they remain socially discriminatory, they disadvantage students from lower-class backgrounds less than the classical educational pathways (Gymnasium) to higher studies (Buchholz/Pratter 2018).

This contribution takes a closer look at how regional offers of different educational pathways matter for social disparities in access to HE in Switzerland, a federal state where educational offers are governed at a cantonal level. In a country with a traditionally large share of vocational education and training (VET), vocational baccalaureate schools are seen crucial to widen access paths to HE. Beside the Federal Vocational Baccalaureate (FVB) which mainly qualifies for studies at UAS, upper secondary specialized schools (SpS) have been introduced as a third pathway to prepare pupils for HE studies at UAS and Universities of Teacher Education in female-dominated fields such as health and teaching. Among those three pathways to HE SpS seem most inclusive with regard to social origin (Falter/Wendelspiess 2016). Moreover, general education paths to HE (both Gymnasiums and SpS) are quantitatively restricted in some cantons for political purposes. Respective measures of educational governance aim at strengthening initial VET as well as the FVB especially in the German-speaking part of the country. Thereby, low shares of general baccalaureates go hand in hand with low shares of vocational baccalaureates in some cantons (SKBF 2018). This makes Switzerland an interesting educational laboratory to study the effect of educational provision on social inequalities in HE access.

In this context we ask how educational offers (general, vocational and specialised baccalaureate schools) and ascriptive categories (social origin, gender and the respective intersectionalities) matter for HE access in Switzerland. We are especially interested in how different cantonal educational offers moderate social disparities in HE access. Theoretically, we link policy-driven educational offers with the concepts of institutional and social permeability (Bernhard 2018) and with intersectionalities of social origin and gender (Imdorf et al. 2017). We assume that (1) HE access varies due to educational opportunities at the cantonal upper secondary level, especially for students who access HE via vocational and specialised baccalaureate schools (H1); (2) that the vocational and specialised baccalaureate schools remain important paths to HE for men and women respectively from socially disadvantaged backgrounds (H2); (3) that the varying cantonal offers of vocational and specialised baccalaureate schools moderate educational inequalities in accessing HE (H3).

#### *Methodology, Methods, Research Instruments or Sources Used*

##### Data:

We analyse new and unique longitudinal register data for Switzerland which allows for reconstructing detailed educational pathways from upper secondary to higher education. Since 2012, the Swiss Federal Statistical Office has applied a personal identifier in all its surveys in the education sector. This enables nationally harmonised and structured longitudinal data suitable for analysing educational transitions for the cohort which has achieved a first upper secondary degree in 2012 in the entire country (N=74'867). In addition to detailed information on the educational programmes completed, the region (canton) of educational enrolment, the gender and the migration status of the pupils, information on the highest level of household education as well as respective sampling weights can be matched for a sample of 8'925 pupils from the Swiss Structural Survey. We follow-up this cohort for four consecutive years – which allows to include students who have achieved a vocational baccalaureate as their second upper secondary degree after completing VET – and measure if pupils have enrolled in higher studies until 2016 (dummy outcome variable).

Our educational predictor variable has four categories: students with general baccalaureate, SpS students with special baccalaureate, VET students with vocational baccalaureate, and VET graduates without a HE entry certificate. The intersectionality of the two predictors social origin and gender is accounted for with three dummy variables: (1) girls and (2) boys whose parents have no higher education degree, and (3) boys with highly educated parents (girls with highly educated parents account for the reference category). Educational offers at the regional level are measured with three cantonal variables: The cantonal share of persons with (1) general, (2) vocational, and (3) special baccalaureates among all residents at the age when baccalaureate degrees are typically achieved. We control for migration background of the students at the individual level.

##### Analytical strategy:

In a first step we conduct weighted bivariate analysis to relate educational routes to HE (types of baccalaureate) and ascriptive categories (gender\*social origin) to higher education enrolment (N=8'925). In a second step we apply weighted multilevel binary logistic modelling to analyse how educational pathways impact differently by canton on HE access (Random Intercept Random Slope Model with students at level 1 and cantons at level 2). We finally add cross-level interactions (Rabe-Hesketh/Skrondal 2008) to analyse how the cantonal educational offers impact on social inequality in higher education access.

#### *Conclusions, Expected Outcomes or Findings*

Preliminary results confirm our first assumption (H1): Estimates for higher education access show that with an increasing share of general

baccalaureate holders in Switzerland (which indicates a rise in cantonal provision of general baccalaureate programmes) transition probabilities especially of special baccalaureate holders and vocational baccalaureate holders to higher education decrease. Hence, institutional permeability varies at the cantonal level in consequence of regional educational policy.

If we turn to social permeability, we first find remarkable educational inequalities regarding the intersectionalities of social origin and gender in HE access: Whereas 63% of female pupils from advantaged social origin transition to HE, the respective share among their male peers amounts to 57%. Pupils from parents without HE degrees enrol much less often in higher studies: 38% of female pupils and only 30% of male pupils do so. Hence, young women from socially advantaged families transition twice as often to HE than young men from disadvantaged families. Remarkably, our multivariate analyses show that these educational inequalities can almost exhaustively be explained with the educational pathways the respective social groups have been allocated to. This is in line with our second assumption, that specialised and vocational baccalaureate schools are important pathways to HE for young women and men respectively from socially disadvantaged backgrounds (H2).

In a last step we will test our third assumption that the varying cantonal offers of specialised and vocational baccalaureate schools moderate social disparities in HE access. All in all, our preliminary findings indicate that social permeability to HE can be steered by implementing appropriate institutional permeability between vocational and higher education and that educational policy at the upper secondary education level matters for inclusion and diversity in HE.

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#### *Intent of Publication*

We intend to submit our paper for a planned special issue of the journal *Social Inclusion* on the interplay of education, politics, and inequalities