

Do Vocational Pathways Improve Higher Education Access for Women and Men from Less Privileged Social Backgrounds? A Comparison of Vocational Tracks to Higher Education in France and Switzerland

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Abstract

Educational policy developments in France and Switzerland have increased eligibility for higher education. This paper explores the extent to which vocationally orientated pathways to higher education reduce social inequalities in France and Switzerland. More specifically, we analyse how the vocational pathway facilitates access to higher education for male and female students from lower cultural capital backgrounds. We refer to gender theory to link young people's subjective self-image and its corresponding institutional fit with different educational pathways. We use panel data from France (panel DEPP) and Switzerland (panel TREE) and multinomial logistic regression to analyse the accessibility of different institutional pathways to higher education for male and female students separately. Our results show different consequences of the two national educational systems with regard to social reproduction and gender inequalities. An intersectional analysis highlights that, in France, vocationally oriented programmes foster higher education access for young women with lower cultural capital. In Switzerland, the vocational pathway to access higher education is primarily used by young men from privileged educational backgrounds as a compensation for their underrepresentation in the traditional general education pathway to higher education.

1. Introduction

In France and Switzerland, educational reforms in the 1980s and 1990s have increased students' access to higher education through the development of vocationally orientated secondary school programmes. In France, the educational reform of 1985 introduced the *baccalauréat professionnel*. In Switzerland, the emergence of universities of applied science was accompanied by the introduction of the Federal Vocational Baccalaureate (*Berufsmaturität / maturité professionnelle*) in 1994. One aim of these reforms was to reduce educational inequalities by providing access to higher education to young people from lower-class backgrounds. This article examines to what extent this aim has been fulfilled. A related question is whether these newly established pathways to higher education are less socially selective compared to the traditional general education pathway for both young men and women. These questions are of high relevance in the light of the current European policy agenda to make access to higher education more 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 2017). In order to answer our questions, we use a theoretical framework that integrates structural patterns of educational systems (i.e. different institutional pathways to higher education) and subjective dimensions of social identities and decision-making that can result in educational inequalities.

A comparison of France and Switzerland is of interest because the institutionalisation of these new educational paths to higher education comes from two different policy perspectives. While the Swiss Federal Vocational Baccalaureates reflects an 'academisation' of a well-established vocational education, the French vocational *baccalauréat* stems from a 'vocationalisation' of the classic general academic track to higher education (Murdoch *et al.* 2014). Given these differences, we want to understand which national reform strategy has resulted in educational offers that are (more) successful in reducing educational inequalities.

In the following section, we will briefly presents the French and Swiss educational systems followed by an overview of socially selective routes to higher education in the two countries. In the third section, we propose some theoretical explanations for gender-specific and social inequalities that derive from various educational tracks to higher education. Section four introduces the longitudinal data and methods used in the cross-sectional analysis of the accessibility of various institutional paths to higher education for male and female youths from

different educational backgrounds in France and Switzerland. The empirical analysis looks at the intersectionality of gender and social background in light of the institutional context of the accessibility to higher education. Sections five and six present the paper's results and some conclusions of the main findings.

2. Educational Systems and Socially Selective Routes to Higher Education in France and Switzerland

2.1 Vocationally Oriented Institutional Paths to Higher Education in France and Switzerland

Although France and Switzerland have both introduced new vocational pathways to higher education, the ways in which these pathways evolved from existing educational provision differ. While in France the development of the *baccalauréat professionnel* can be attributed to the 'vocalisation' of general education, the Federal Vocational Baccalaureate in Switzerland is rather the result of the 'academisation' of vocational education. Referring to Verdier's (2013) typology of life lifelong learning regimes, 'vocalisation' in the French case points to the strengthening of the occupational and neo-corporatist principle underlying the organization of educational provision, that is the development of vocational certifications integrated into the hierarchy of general education levels. In contrast, 'academisation' in the Swiss case points to the introduction of school-based academic competition and a hierarchy of education/training levels within the vocational education and training system.

2.1.1 The French educational system

The French educational system is characterized by a comprehensive lower secondary school system – the *collège*. However, at the upper-secondary level students are distributed in three educational tracks of decreasing prestige. The general *lycée* leads to the *baccalauréat général* (general baccalaureate), the technological *lycée* in turn enables youths to acquire the *baccalauréat technologique* (technological baccalaureate), and the vocational *lycée*, besides providing the *baccalauréat professionnel* (vocational baccalaureate), also offers other vocational qualifications (*brevet d'études professionnelles*, *certificat d'aptitude professionnelle*). All three types of baccalaureate enable access to higher education. However the permeability between the different baccalaureates and different types of higher education institutions is limited. The

vocational *lycée*, which has evolved from formerly full-time vocational schools, has increasingly developed various forms of cooperation with companies and the labour market over the 1970s and 1980s (Tanguy 2000). Hence, the new vocational pathway to higher education can be characterised by an increasing ‘vocationalisation’ of school-based education.

In France, the creation of the vocational baccalaureate played a major role in the rapid increase of baccalaureate holders (from 29.4 per cent in 1985 to 62.7 per cent in 1995), resulting in a doubling of graduates in higher education (Duru-Bellat and Kieffer 2008). Nevertheless, vocational education – including the vocational baccalaureate – continues to be socially undervalued. The *bacheliers* (baccalaureate graduates) access higher education in varying degrees, depending on their type of baccalaureate. Around the time of our empirical analysis, the transition rate to higher education was 87 per cent for general baccalaureate graduates, 79 per cent for technological baccalaureate graduates, and only 34 per cent of vocational baccalaureate holders (Lemaire 2005).

Baccalaureate holders who access higher education also enrol in very different sectors of French higher education. These sectors include universities, elite universities (*Grandes Écoles*, including their preparatory classes), short programmes that are oriented towards the labour market at the *Institut universitaire de technologie (IUT)* or the *Section de technicien supérieur (STS)*, and technical colleges in the health and social sectors. All three types of baccalaureate provide open access to university studies, which offer considerable better employment opportunities compared to initial vocational education and training (IVET). However, success rates, especially at universities, are much lower for professional baccalaureate and technological baccalaureate holders compared to general baccalaureate holders. Whereas the success rate for graduating within four years is around 50% for the latter, it remains low with 16% for technological baccalaureate holders and even lower with 6% for holders of a professional baccalaureate (Maetz 2016). The *Grandes Écoles* on the other hand are highly selective and only admit general baccalaureate holders. Moreover, despite many vocational baccalaureate holders wishing to enrol in the shorter specific study programmes (IUT/STS), access to many of those programmes has been selective, with a preference of recruiters for other types of baccalaureates (Duru-Bellat *et al.* 2008).¹

¹ More recently, the French Higher Education and Research Act dated of 22nd July 2013 demands to provide a better access for holders of technological and professional baccalaureates to the *IUT/STS* where chances of the latter to graduate successfully are considerably better than at the universities.

2.1.2 The Swiss educational system

In contrast to France, the Swiss educational system is organised federally. Within lower-secondary schools, most Swiss cantons have a more or less formal tracking system in place that allocates students according to their performance levels (cf. SKBF 2014). After finishing compulsory school, the majority of youths start IVET, which is mainly organised as dual (company- and school-based) apprenticeship training and, compared to France, enjoys a much higher degree of social prestige. In Switzerland, only a fifth of adolescents graduate from gymnasium with a general baccalaureate, which enables them to enrol in a university without having to pass any entrance exams. The educational tracks at the lower-secondary level have a significant effect on the subsequent educational options that pupils have in upper-secondary education. While pupils on tracks with higher performance requirements have access to upper-secondary schools (both general and vocationally orientated) as well as apprenticeships, the options for adolescents from tracks with lower requirements are primarily geared towards apprenticeships (Buchmann *et al.* 2016).

In order to improve the access to higher education in Switzerland and particularly that of IVET graduates, the Federal Vocational Baccalaureate (FVB) was introduced in 1994. Its implementation was the result of a *bricolage* between the baccalaureate and institutional elements of the traditional dual apprenticeship system. Some vocational secondary schools that complemented company-based training were upgraded into vocational baccalaureate schools (Graf 2013). Since then, most FVBs are acquired either simultaneously or subsequently to a dual apprenticeship. The new vocational pathway to higher education, that resulted in an academic hierarchisation of IVET provision, can therefore be characterised as an ‘academisation’ of the traditional dual-track vocational education.

The total baccalaureate rate increased from 17 per cent in 1995 to 32 per cent by 2009. Of the 2008 baccalaureate cohort, 93 per cent of general baccalaureate holders compared to 56 per cent of vocational baccalaureate holders entered higher education (SKBF 2014, 170). However, Swiss higher education has a binary structure based on a functional differentiation between the academic and vocational sectors (universities vs. universities of applied science, including universities of teacher education, cf. Denzler 2016). The institutional educational tracks that provide access to these types of higher education are again binary and permeable only to a very small degree. As already mentioned, it is possible to start a university degree with a vocational

baccalaureate in France. In Switzerland however, the formal possibilities of doing so are very restricted². Most of the vocational baccalaureate holders that actually go on to higher education, do so at a university of applied science, whose study programmes provide very good career prospects on the labour market.

2.2 The Social Selectivity of the Various Channels of Access to Higher Education

The different implementation of the vocational pathway in France and Switzerland may varyingly affect access to higher education for different social groups. In a previous French-Swiss comparison, Murdoch *et al.* (2014) showed that, in contrast to France, the vocational path in Switzerland is less successful in guiding youths with a vulnerable migration background to higher education. Before we analyse the accessibility of the vocational path to higher education for male and female students from less privileged backgrounds, we will summarise previous research on social and gender inequalities in acquiring university access qualifications and in using them for enrolment in French and Swiss higher education.

2.2.1 Inequalities in Acquiring Access to Higher Education

Even if the aim of the French educational policy of a baccalaureate rate of 80 per cent has not yet been met, the educational reforms have opened up new educational options for youngsters from a working class background. Roughly half of the *bacheliers* have parents without a baccalaureate themselves (Caille and Lemaire 2009). As previously mentioned, the baccalaureate rate increased through a diversification of the types of baccalaureate diplomas. Often, academically weaker and socially less privileged pupils only acquire a technological baccalaureate or, more often, a vocational one. Only rarely do they attain the more prestigious general baccalaureate that increases the likelihood of a successful educational path towards, and within, higher education (Duru-Bellat and Kieffer 2008). According to Merle (2002), this diversification can be described as a ‘segregative democratisation’. In the Swiss case, Schumann (2016) has shown that youths from a less privileged social background attain a vocational baccalaureate more often than a general one, controlling for reading skills and gender. Still, Stalder *et al.* (2008) found that apprentices, whose parents have higher educational qualifications, acquire a vocational baccalaureate more often compared to apprentices whose parents have a lower level of education.

² Such an endeavour requires an additional programme (a so-called *Passerelle*) which is used by only three per cent of school leavers with a vocational baccalaureate (SKBF 2014, 170).

Furthermore, in both countries, the accessibility of different types of baccalaureate varies depending on gender. In Switzerland and France, women are more likely to get a general baccalaureate and men are more likely to complete a vocational baccalaureate or IVET (Brinbaum and Trancart 2015; Hupka-Brunner *et al.* 2011; SKBF 2014). In addition, it is particularly common for men to use the vocational baccalaureate as a way to access higher education in Switzerland (Schmid and Gonon 2016).

Glaser (2015) carried out an in-depth analysis of the interaction between an individual's gender and social background (estimated by the highest educational degree attained by the parents) in the Swiss context. He shows that male youths whose parents have a degree in higher education are more likely to enrol in IVET with a vocational baccalaureate while female adolescents from the same social background prefer to follow a general or specialised upper-secondary programme. While for young men, social reproduction seems to flow through a vocational path to higher education by means of the vocational baccalaureate, in the case of young women, this depends more on acquiring a general baccalaureate.

2.2.2 Unequal Transition to Higher Education

In addition to inequalities in obtaining higher education entry qualifications, social inequalities also exist in the use of such qualifications. In France, 96 per cent of general baccalaureate holders with parents with higher-level occupations, and 93 per cent of those from manual worker backgrounds, go on to study in higher education. However, for the same groups, there are large differences in higher education enrolment for technological and vocational baccalaureate holders. Just over half of students from a manual worker background enrol for higher education versus 78 per cent of students with parents with higher-level occupations (Duru-Bellat and Kieffer 2008). In Switzerland, youths with a higher socioeconomic status from general baccalaureate programmes are more likely to enrol in a university programme, whereas those with a lower status rather enrol for a diploma in a university of teacher education or applied science (Denzler 2011). Holders of a Federal Vocational Baccalaureate with a higher socioeconomic status are more likely to enrol in higher education compared to those with a lower status (Schumann 2016). The differences between men and women in obtaining the different types of baccalaureate lead to gendered transitions to higher education in both France and Switzerland. The tendency in France is for young men to enrol less frequently in higher education than young women (Brinbaum and Trancart 2015). This tendency can largely be explained by the fact that they are less likely to

obtain a general or technological baccalaureate and have lower school marks (Duru-Bellat *et al.* 2008). This also applies for young woman in Switzerland who are more likely to complete a general baccalaureate and subsequently enrol in higher education compared to young men (Buchmann *et al.* 2016).

2.2.3 Can the Vocational Pathway to Higher Education Compensate for Educational Inequalities?

Buchmann *et al.* (2016) show that in Switzerland youths with parents who have a higher education degree are overrepresented in all sectors of tertiary education (universities, universities of applied science, and Professional Education and Training). Nonetheless, there is evidence that access to universities of applied science by means of the vocational baccalaureate is less unequal than access to universities via the general baccalaureate (Buchmann *et al.* 2007; Buchmann *et al.* 2016; Denzler 2011; Lebert *et al.* 2013). Falter and Wendelspiess Chavez Juarez (2016) examine whether the vocational path to higher education can *compensate* for educational inequalities. The authors find that this is only the case if the baccalaureate is acquired by means of a full-time semi-vocational programme. Vocational baccalaureates linked to company-based IVET continue to reproduce social inequalities. In a recent Franco-Swiss-Canadian comparison, Kamanzi *et al.* (2016) show that vocational access to higher education does not compensate for educational inequalities between students from different socio-economic backgrounds in the classic general educational route to higher education. However, gender was only taken as a control variable into consideration. Given that social reproduction is also shaped by gender (Dumais 2002; Gutierrez *et al.* 2015), it is not clear how gender may impact on the use of the vocational access route to higher education among students from different social backgrounds. Apart for a few exceptions, quantitative research in France and Switzerland have rarely explored the intersection between gender and social background.

3. Theoretical Explanations for Gender-Specific Social Inequalities in Accessing Higher Education

In this section, we examine some theoretical explanations of the intersectionality of gender and social background in educational trajectories, with a special focus on vocational pathways to higher education. Our theoretical perspective focuses on how structural features of educational

systems – academic vs. vocational pathways to higher education, and different implementations of the latter – impact differently on the educational trajectories of young women and men from different social backgrounds. We are especially interested in the efficacy of the two differently developed vocational pathways in France and Switzerland – vocational schools that opened up towards the labour market *versus* dual track apprenticeships that have implemented extended academic requirements – to foster higher education access for the less socially privileged male and female youth.

3.2.1 Rational choice explanations

Two decades ago, Shavit and Müller (2000) analysed the role of vocational education in the process of occupational attainment. They showed how different types of IVET systems – characterised by their degree of vocational specificity, stratification, and their education-employment linkage – affected students’ future income and employment stability. They distinguished between two types of IVET systems that either ‘divert’ lower class students into less desirable occupations or alternatively, offer a ‘safety net’ to protect them from unemployment and unskilled work.

Hillmert and Jacob (2003) have transposed the diversion/safety net distinction to the study of higher education access via vocational education. Using human capital theory and a rational choice model of utility maximization, they specified the individual returns to education in the form of expected future income within a certain period. In this regard, their model differs from the relative risk aversion model of Breen and Goldthorpe (1997) according to which parents try to prevent their children from having a position in life worse than their own. Assigning more individual agency to graduates of compulsory school who need to decide between different upper-secondary alternatives is certainly reasonable. However, the assumption of Hillmert and Jacob (2003) that individuals who decide to combine vocational training and academic studies over time anticipating a return on investment after up to three decades does not seem very compelling with regard to 15 to 16 year old adolescent decision-makers whose planning horizon can be much shorter or non-existent (Wohlgemuth *et al.* 2017).

Still, Becker and Hecken (2009) as well as Glauser (2015) have shown that a cost-benefit analysis can explain the existence of different educational expectations among youth of various social backgrounds – the so-called secondary effects of social background. The same authors

however did not find convincing evidence for differences between the choices of female and male youngsters based on the same explanatory model. This might be because, similarly to social reproduction theory, the dominant individualistic approach in social stratification research has undertheorized the role of gender in social and educational inequality (Dumais 2002; Mickelson 2003). These theories are not able to deal appropriately with gendered trajectories because they are based on a binary understanding of gender (men vs. women). Such a binary conception does not take into account that social backgrounds generate plural femininities and masculinities, which may influence young people's transition to higher education through different pathways.

3.2.2 Gender theory explanations

We therefore propose an alternative theoretical reasoning based on gender theory in order to explain the distribution of males and females from different social backgrounds across different pathways to higher education. General (academic) and vocational education provide different opportunities for male youths to fulfil stereotypes of masculinity. Connell (2005; 2008) showed that typically IVET offers gender segregated and gender typed programs, with the curricula in the industry sector (e.g. building and construction) being centred on bodily practices, muscular tensions and specific skills preferred by young men. Such curricula allow male youngsters better opportunities for practicing masculine behaviour compared to academic curricula. Wohlgemuth *et al.* (2017), based on recent evidence for Switzerland, confirm that both female and male students assume that general school-based education corresponds better to the needs of girls and company-based vocational education to those of boys. Moreover, disruptive behaviour in class at lower secondary school – referred to as ‘protest masculinity’ by Connell (2005), which is particularly frequent among boys from working class communities (Connell 2005; Legewie and DiPrete 2012), – accompanied by anti-school attitudes as well as a low motivation to learn, impair the academic success of many male students which would be necessary to enrol in a gymnasium or in a general *lycée*.

Academic vs. vocational programmes also offer different opportunities for female students to self-actualize their femininities. Bettie (2002, 2014) found evidence in the US context that upwardly mobile girls from a less privileged background manage to adopt a form of middle-class femininity that is the norm for upper secondary schools. According to this norm, female students are supposed to abide by school rules and to make less pronounced use of make-up and sexualised clothes. The latter behaviour is deemed decent as well as appropriate and positively

sanctioned by their teachers. Female students from a less privileged background that are relegated to vocational educational tracks however, show a ‘dissident’ form of femininity that is expressed by a lot of make-up, tattoos, piercing, clothes and last but not least by truancy, to distinguish themselves from girls in upper secondary schools. Hence, what is considered appropriate female behaviour differs not only by social background – gender roles are less pronounced in the academically educated middle class than in working-class milieus (Kriesi and Buchmann 2014) – but also by educational (academic vs. vocational) programmes. Family background in turn injects complexity into the relationship between gender role socialization and gender differences in the choice of educational programmes (Ma 2009). Hence, in order to account for gendered educational trajectories that may vary by social background, both social background and gender need to be taken into account as intersectional³ analytical categories, that is as axes of inequality that operate simultaneously (Gross et al. 2016).

3.2.3 Hypotheses

To sum up, gender theory suggests that different masculinities and femininities that vary across social groups can explain why men and women choose different educational pathways. ‘Protest masculinity’ (Connell 2005) and ‘dissident femininity’ (Bettie 2014) provide easily accessible resources that reduce insecurity during adolescence during the transition from compulsory to post-compulsory education. It can be expected that, other things (such as previous school achievement and educational aspirations) being equal, youths from a more privileged social background use general educational paths to a higher degree in order to gain access to higher education (*Hypothesis 1a*). In contrast, *ceteris paribus*, youths from a less privileged family background use vocational tracks to higher education more frequently compared to adolescents from a more privileged background (*Hypothesis 1b*). The main logic behind this first assumption is that the vocational path – which offers more opportunities for gender identification compared to the academic path (Kergoat 2014; Wohlgemuth et al. 2017) – enables youths with ‘protest masculinity’ and ‘dissident femininity’ to set themselves apart from their peers with middle-class gender identities. This assumed mechanism competes with the gender-blind assumption of rational action theory that working-class children are distracted from the direct path to university

³ In order to account for social inequality that emerges in the intersection of two or more analytical categories we distinguish between the *intersectionality* of social categories at a conceptual level and the statistical *interaction* of the respective categories at the measurement level.

by vocational education and training due to the subjective evaluation of prior educational performance, the (reduced) probability of success at university, and the subjectively expected higher costs of the academic path (Becker and Hecken 2009; Glauser 2015; Hillmert and Jacob 2003).

When linking educational policy in both countries to gender theory, it is also important to consider that the vocationally orientated path to higher education is mainly school-based in France and primarily company-based in Switzerland (see 2.1). Because the school form of the French vocational route to higher education is better geared to feminine than to masculine *doing gender*, it can be expected that, *ceteris paribus*, the vocational path to higher education is more likely to integrate female than male youths from less privileged social background in France (*Hypothesis 2a*). Because, in Switzerland, the school form is subordinated to company-based learning in gender-segregated jobs, we expect a similar capacity of the vocational route to higher education to integrate less privileged male and female youths (*Hypothesis 2b*).

Data availability unfortunately impedes a straightforward test of our assumptions. Nationally representative longitudinal data on educational trajectories generally only record students' self-reported sex, or the sex to which they were assigned by their parents or school authorities (Lucas et al. 2010). National research infrastructures do not provide subjective measures of femininities and masculinities that would be necessary to *explain* the proposed intersection of social background and gender. Our analytical strategy is therefore restricted to the control of primary effects – lower secondary school achievement, which limits access to higher education⁴ – and secondary effects (educational expectations) in pathways to higher education of males and females from different social backgrounds. We do not expect primary and secondary effects, which we use as proxies for the rational choice explanation, to provide a comprehensive explanation of the utilisation of the vocational pathway to higher education. Rather, unexplained variance between gender and social background intersections should be reviewed in line with the gender theories introduced above.

⁴ In both France and Switzerland, educational inequalities on the upper-secondary level, as well as in the transition to higher education, are strongly influenced by the school performances at lower-secondary level (Buchmann *et al.* 2016; Farges *et al.* 2016).

4. Data and Methods

We examine the use of different institutional paths to higher education by youths from varying social backgrounds by means of longitudinal data from France (Panel DEPP) and Switzerland (Panel TREE). Both panel studies provide information on the educational trajectories of pupils from lower-secondary level to higher education.

The Panel *d'élève* of the *Direction de l'Évaluation, de la Prospective et de la Performance* (DEPP) is a nationally representative survey of the French educational ministry that consists of 17830 pupils that entered secondary school in 1995 and were observed until 2005. The DEPP data enables the reconstruction of educational trajectories from the lower-secondary level (*college*) via the upper-secondary level (*lycée*) until higher education.

The Swiss study *Transitions from Education to Employment* (TREE) is a longitudinal study that is representative both on a national level and for the various Swiss language regions. The focus of this study lies on educational and occupational trajectories after compulsory school. The initial sample consisted of over 6000 youths that participated in the PISA project (Programme for International Student Assessment) and finished compulsory education in the year 2000. We use seven waves of panel data collected yearly from 2001 to 2007, as well as an eighth panel wave collected in 2010.

As our dependent variable, we classify four educational pathways that allow an analogue comparison of access routes to higher education in France and Switzerland:

- (1) Academic pathways to higher education via the French *baccalauréat général* or via the Swiss general baccalaureate
- (2) Vocational pathways to higher education via the French *baccalauréat technologique / professionnel*⁵ or via the vocational baccalaureate (includes specialised upper secondary programmes) in Switzerland
- (3) Educational pathways that provide access to higher education (of a general and vocational nature) but without an actual higher education enrolment by the individual

⁵ We combine the two French (technological/vocational) baccalaureates for the sake of comparability with the case of Switzerland, where learners enrolled in any of the approx. 240 3-year or 4-year IVET programmes for the Federal VET Diploma have the option of preparing for the Federal Vocational Baccalaureate. Merging the two categories may be further justified by the fact that the gap in success rates at the university level is much larger between the general baccalaureate on the one hand and the technological and vocational baccalaureates on the other hand compared to the gap between the technological and the vocational baccalaureate (see Maetz 2016).

(4) Pathways with vocational qualifications that do not provide access to higher education

Our analysis is focusing on different access routes to higher education, using a comparable broad notion of the latter. Higher education includes different types that are all expected, though not similarly, to improve labour market returns compared to non-higher education careers. In France, higher education covers universities, *Instituts universitaire de technologie (IUT)* and the *Sections de technicien supérieur (STS)*, *Grandes écoles*, and preparatory schools for art, architecture, nursing, and social work. In Switzerland, higher education groups together cantonal and federal universities, universities of applied science, and universities of teacher education. Youths without post-compulsory education are excluded from the analysis.

We consider the following independent variables: *Social background*, which is measured dichotomously on the basis of individuals' parental *educational background* (at least one parent with higher education vs. both parents without higher education).⁶ There are additional controls for the *migration background* of students, measured by arrival in the country (first and second generation). The analysis also includes *academic factors* such as grades in language and mathematics, as well the age of entry into *college* in France (indicator of having repeated classes in primary school) and three indicators (grades, reading literacy, school track) of lower-secondary school performances in Switzerland. Finally, we include an indicator for *educational/occupational aspirations* in both countries.

The French sample consists of 12,033 individuals (51% women and 49% men). Just over a quarter of these individuals have at least one parent with higher education. The Swiss sample consists of 2,195 individuals (57% women; 43% men). The proportion of individuals with at least one parent with higher education amounts to 45 per cent.⁷

In order to explore the effects of combined social and gender group memberships (intersectionalities) that might be of compensating, additive or multiplicative nature (Gross et al. 2016), the influence of social background on educational trajectories is analysed separately for male and female students. First, a descriptive analysis in both countries looks at the distribution

⁶ We use this indicator of social background because both Swiss and French research shows parental education has become more relevant for young people's access to higher education than socioeconomic status or socio-occupational class (Buchmann *et al.* 2007; Duru-Bellat and Kieffer 2008).

⁷ The pronounced difference in the sample size is mainly due to different population sizes in the two countries and therefore not expected to bias the outcomes of the analysis (apart from larger standard errors in the Swiss case).

of men and women of different social backgrounds amongst the aforementioned educational pathways. In a second step, we perform a multivariate analysis using a series of multinomial logistic regression models. A first model controls for migration status as a factor likely to influence the effect of social background on educational pathways, a second model further takes academic factors (primary effects) into account, and, finally, a third model controls for students' educational/occupational aspirations (secondary effects).

5. Results

5.1 Descriptive Results

5.1.1 France

In line with hypothesis 1a, the descriptive figures in table 1 show that, for both male and females, the percentage of youths from parents with higher education in the academic pathway to higher education is more than double that of those from non-higher education families (f: 72% vs. 34%; m: 57% vs. 17%). Amongst students from non-higher education milieus, young women are more frequently in the academic pathway to higher education than men, while the latter are represented in the vocational pathway to higher education in a similar way to their female peers (m: 23%; f: 24%). In line with hypothesis 1b, women from non-higher education milieus use the vocational pathway to higher education considerably more than do women from a privileged social background (24% vs. 12%). For young men, this difference is less pronounced (23% vs. 20%).

[Table 1 near here]

Furthermore, young women and men whose parents do not have a higher education are more likely not to use their general or vocational baccalaureate to access higher education (f: 20%; m: 24%), compared to youths with parents that have higher education (f: 12%; m: 17%). Moreover, the former are five times more likely to be in the vocational pathway that does not provide access to higher education, compared to those with at least one parent with a higher education (f: 22% vs. 4%; m: 35% vs. 6%).

5.1.2 Switzerland

The descriptive findings for Switzerland in table 2 are generally comparable with those of France, and in accordance with hypothesis 1a. The percentage of pupils from higher education milieus in the academic pathway to higher education is again double that of youths from non-higher education families (f: 54% vs. 26%; m: 39% vs. 20%). Amongst students from non-higher education milieus, young women are more frequently in the academic pathway to higher education than men (f: 26% vs. m: 20%). However, the latter group is more often in the vocational pathway to higher education (m: 14%; f: 10%). Amongst young women from both social backgrounds, the chances of gaining access to higher education by means of a vocational baccalaureate are similar (8% vs. 10%). Even though young men generally use the vocational pathway to higher education more often than women do, the data indicate, contrary to our assumption (hypothesis 2b), that young men from a more privileged social background (21%) are more likely to make use of this pathway compared to those from a less privileged background (14%). Hence, in Switzerland, it seems that the vocational pathway enables young men from more privileged educational milieus to compensate for their underrepresentation in the academic pathway to higher education.

[Table 2 near here]

Similarly to the situation in France, young women and men from less privileged social backgrounds are more likely not to make use of their general or vocational baccalaureate (f: 19%; m: 18%), compared to youths with parents that have higher education (f: 14%; m: 15%). The former are twice as likely to follow a vocational pathway that does not provide access to higher education (f: 44% vs. 23%; m: 49% vs. 24%).

In general, our descriptive analyses indicate that the vocational pathway to higher education is more socially inclusive in France than in Switzerland – in the sense of creating better opportunities for students from disadvantaged social backgrounds to access higher education. This holds especially for less privileged women, which is in line with hypothesis 2a. The percentages in table 1 and 2 also show that for both women and men the Swiss vocational pathway to higher education constitutes an institutionally limited option in comparison to France. While in France almost every one in four youths with parents without higher education tends to

use this pathway, in Switzerland, only every one in seven male students and every one in ten female students do so.

5.2 Multivariate Analyses

The following analysis estimates and compares average marginal effects (AMEs) in a series of multinomial logistic regression models in order to explain how the social background of young women and men influences their access to the four educational pathways described above in France and Switzerland. The outcomes of the analysis measure the difference between the probabilities of two comparative groups following a specific educational pathway. A negative value, for example, can be interpreted as a lower probability of a youth whose parents do not have a higher education being in a specific educational pathway, compared to a youth from a higher educational milieu.

In the context of this group comparison, model 1 only controls for students' migration background. Moreover, the results of model 2 illustrate the remaining differences in probability when controlling for academic factors at the lower secondary school level (primary effects). The final model additionally controls for educational aspirations (secondary effects). For lack of space, we mostly refrain from discussing the flows of students who do not go on to higher education. However, the findings for the respective pathways 3 and 4 should be kept in mind when interpreting the patterns in the academic and vocational pathways to higher education.

5.2.1 A Comparison of Educational Inequalities between Men in France and Switzerland

The results of model 1 (figure 1) show that distinct and highly significant educational inequalities can be found between males in France. Male youths have a 40-percentage point lower probability of following the academic pathway to higher education if their parents do not have higher education. However, when previous academic factors are controlled for, this difference decreases considerably to 24-percentage points. When additionally educational aspirations are controlled for, this figure decreases to a statistically significant 17-percentage point difference. On the other hand, young men from non-higher education milieus, have a three percentage-point higher probability of using the vocational pathway, which does not go far in compensating for their disadvantage within the academic pathway.

[Figure 1 near here]

Figure 2 shows that in Switzerland young men have a 19-percentage point lower probability of entering the academic pathway to higher education if their parents do not have higher education (model 1). When controlling for school performance (model 2), this difference still amounts to 14-percentage points. When educational aspirations are controlled for, this figure is still statistically significant by nine percentage points. This means that over half of the initial difference can be explained by previous academic factors and educational aspirations. Furthermore, young men from non-higher education milieus show an approximately seven percentage-point lower probability of using the vocational track to higher education. This difference is not explained by academic factors or educational aspirations. This finding confirms Glauser's (2015) observation that in Switzerland male youths from higher education milieus frequently choose a vocational baccalaureate and thereby compete with their male peers from non-higher education milieus. Given the high societal valuation of Swiss IVET and the fact that it offers promising professional career opportunities especially in the male-typed engineering field (as well as in the management field) may divert the former from the traditional school-based track to higher education.

[Figure 2 near here]

The multivariate comparison of men in France and Switzerland confirms the previous descriptive findings. On the one hand, it is clear that youths with a more privileged social background are more likely to use the academic pathway to higher education compared to those with a less privileged background. This remains true even when controlling for academic factors and educational aspirations (hypothesis 1a). On the other hand, the vocational pathway to higher education is slightly more favourable for first-generation students in France, but not in Switzerland (which does not confirm hypothesis 1b).

5.2.2 A Comparison of Educational Inequalities between Women in France and Switzerland

In France, the probability of female using the academic pathway to higher education is 37-percentage points lower if their parents do not have higher education (figure 3). This disadvantage decreases to a 22-percentage point lower probability after considering academic factors. When further controlling for educational aspirations, the difference still amounts to a statistically significant 14-percentage-point lower probability. In compliance with hypothesis 1b,

first-generation female youths can partially compensate for this disadvantage by following the vocational pathway to higher education with an 11-percentage point higher probability. This positive difference is only slightly reduced when controlling for school performance and educational aspirations (8-percentage points).

[Figure 3 near here]

In the case of Switzerland, figure 4 shows that young first-generation females have a 29-percentage points lower probability of using the academic pathway to higher education. This figure still amounts to a 26-percentage point lower probability when academic factors are taken into account. Educational aspirations further reduce these differences in probability, but the effect stays statistically significant at a 17-percentage point lower probability (again in compliance with hypothesis 1). These findings show that previous schooling is less capable of explaining a part of the initial difference compared to educational aspirations. However, the chances of female students from non-higher education and higher education milieus using the vocational track to higher education do not exhibit a significant variation. Other things being equal, female offspring from parents without higher education mostly compensate their exclusion from the academic track through their overrepresentation in the vocational track without baccalaureate.

[Figure 4 near here]

5.2.3 Social Inequalities between Women and Men in France and Switzerland

Social inequalities in the academic pathway amongst young men and women are considerably more pronounced in France than they are in Switzerland, given a similar share of students using this pathway in both countries (36% vs. 34%, see tables 1 & 2). After controlling for primary and secondary effects this still holds true for men. For men, hypothesis 1a is therefore generally more applicable to France, than it is to Switzerland.

In contrast to the academic pathway to higher education, social inequalities in the vocational pathway cannot fully be explained by school performance and educational aspirations. In accordance with hypothesis 2a, the compensatory function of the vocational pathways for young women is stronger in France than in Switzerland. Contrary to what was expected in hypothesis 2b, young men from non-higher education milieus benefit less from the vocational path in Switzerland, whereas it integrates young women from different social backgrounds to a similar degree. Accordingly it does neither compensate for the underrepresentation of men nor of women

from non-higher education milieus in the academic pathway. The findings therefore point to a higher compensatory capacity of the vocational pathway to higher education in France compared to Switzerland. This remains the case even after controlling for school performance and educational aspirations. One possible explanation for this phenomenon could be of an institutional nature. Access to the academic pathway to higher education seem to be more meritocratic in France. The flows in this path can be better explained by school performance in comparison to Switzerland, where educational aspirations are of a higher importance, especially for women. This could be related to a stronger crowding out of students with lower performance from the general to the vocational *lycées* in France. Another explanation might be the high social valuation of vocational education and training in Switzerland whereas in France there is a strong hierarchical relationship between socially valued academic studies and devalued vocational studies, with students from higher education milieus being less attracted by the latter.

To sum up, compared to men, young women from non-higher education milieus benefit more from the vocational track to higher education, both in Switzerland and in France. This track is therefore more capable of reducing the social inequalities in accessing higher education amongst women than amongst men. Especially in the French case, gender theory may explain this because, for youths from a less privileged social background, the more scholastic French vocational route to higher education is geared more towards feminine behaviour.

6. Conclusion

The initial question of this article was whether the newly established vocational pathways to higher education in France and Switzerland facilitate access to higher education for the sons and daughters from less privileged social backgrounds. A comparison of the two countries is of interest because the institutionalisation of these new educational paths to higher education took place in different ways. Whereas the vocational pathway to higher education reflects an ‘academisation’ of the Swiss dual-track apprenticeship system, the French pathway represents a ‘vocationalisation’ of the classic academic track to higher education.

A cross-sectional comparison of educational trajectories in the two countries highlights different consequences of the two national educational systems with regard to the openness of higher education for young men and women from less privileged social backgrounds. Whereas

vocationally oriented programmes in France foster higher education access for young women with lower cultural capital, young men from privileged educational backgrounds in Switzerland seem to compensate their underrepresentation in the academic path to higher education by using the vocational pathway. The cross-country comparison of similar educational policies shows that the implementation of vocational pathways to open up access to higher education, does not always lead to comparable reductions in educational inequalities.

Why is the French policy solution more successful in reducing educational inequalities in access to higher education compared to the Swiss one? The French vocational *baccalauréat* was specifically created in order to provide a security net for the ‘losers’ of the general educational track to higher education and offer an alternative way of acquiring the baccalaureate. In contrast, the Swiss policy solution of upgrading dual-track IVET by adding additional academic courses which lead to a higher education access certificate target the academically powerful apprentices and provided a new institutional opportunity for social reproduction. Furthermore, after some years of job experience, IVET graduates in Switzerland can improve their professional skills and revenues by opting to tertiary level professional education and training without a higher education entry certificate. If this educational option would be added to the current analysis, a higher degree of upward mobility might be discernible for individuals from less privileged social backgrounds in the Swiss case.

Those explanations however do not explain our robust finding that vocational pathways to higher education tend to be more open to women from less privileged social backgrounds compared to their male peers. Gender theory can contribute to explaining this fact, as school-based vocational tracks and the school-based learning that takes place within these tracks are better geared to integrate working class femininities compared to respective masculinities. Moreover, gender theory offers a convincing explanation why youths from less privileged social backgrounds prefer vocational over general education once primary and secondary effects are controlled for. Vocational education is better suited than general education to accommodate their masculinities and femininities (Bettie 2014; Connell 2005). Previous theories in social stratification research have not been able to explain these subtle differences in gendered trajectories because they are based on a binary conception of gender. They do not take into account the variability of gender manifestations (masculinities/femininities) across different social backgrounds, which can explain youth transitions into different educational pathways at the end of compulsory education. Hence, gender theory can complement assumptions of rational action theory in predicting

preferences of working-class children for vocational education and training in general and provides an original argument for the stronger preferences of working-class girls for vocational routes to higher education compared to those of working-class boys.

Our study nevertheless contains several limitations. First and foremost, missing data on masculinities/femininities in public surveys impedes a convincing empirical test of our theoretical argument. Second, our cross-sectional research design cannot disclose the effect of policy implementations over time. Finally, one must keep in mind that this article only examines access to higher education, but not academic and labour market success *in* and *subsequent* to higher education. On the one hand, research confirms a positive correlation between an individual's academic success and parental education, as well as a higher risk of dropping out of university for men compared to women (Wolter *et al.* 2014). Students that find their way to higher education by means of vocational tracks are particularly at risk of dropping out of university (Duru-Bellat *et al.* 2008; Mora 2014). Given that the success rates of students with a technological or professional baccalaureate in France are much higher in short higher education tracks than at universities (see Maetz 2016 with regard to *IUT*), the recent reform of the French Higher Education and Research Act to promote better access of the former to *IUT* and *STS* programmes seems crucial. On the other hand, little is known about the consequences of non-traditional pathways to, and trajectories through, different types of higher education for successful labour market entry (Müller *et al.* 2011). Neugebauer *et al.* (2016) find evidence for Germany that the new transition between Bachelor and Master studies at universities in the course of the Bologna reform diverts less privileged bachelor's graduates into the labour market, where they receive lower returns than master's graduates. In contrast, a recent report by the OECD (2016) illustrates that, compared to Bachelor's and Master's studies at universities, short-cycle tertiary programmes in France and Austria are particularly effective to enter the labour market and therefore might provide compensatory pathways for less privileged students. However, intersectional research that crosses gender and social backgrounds is necessary to investigate if the academic success of female first-generation students who access the French higher education landscape via the vocational paths also pays off at labour market entry.

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Table 1: Post-compulsory secondary educational qualifications and access to higher education by gender and social background in France

<i>Upper secondary certificate</i>	<i>Access to higher education</i>	<i>Female</i>		<i>Male</i>		<i>Total</i>
		<i>PHE</i>	<i>PnHE</i>	<i>PHE</i>	<i>PnHE</i>	
General baccalaureate	<i>Yes</i>	72%	34%	57%	17%	36%
		[1116]	[1541]	[876]	[758]	[4291]
Voc./technic. baccalaureate	<i>Yes</i>	12%	24%	20%	23%	22%
		[195]	[1100]	[304]	[1004]	[2603]
Baccalaureate (general or vocational)	<i>No</i>	12%	20%	17%	24%	20%
		[188]	[913]	[268]	[1055]	[2424]
Vocational education & training	<i>No</i>	4%	22%	6%	35%	23%
		[61]	[1019]	[85]	[1550]	[2715]
<i>Total</i>		<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
		[1560]	[4573]	[1533]	[4367]	[12033]

PHE: Parents with higher education; *PnHE* Parents without higher education.

Data : Panel DEPP

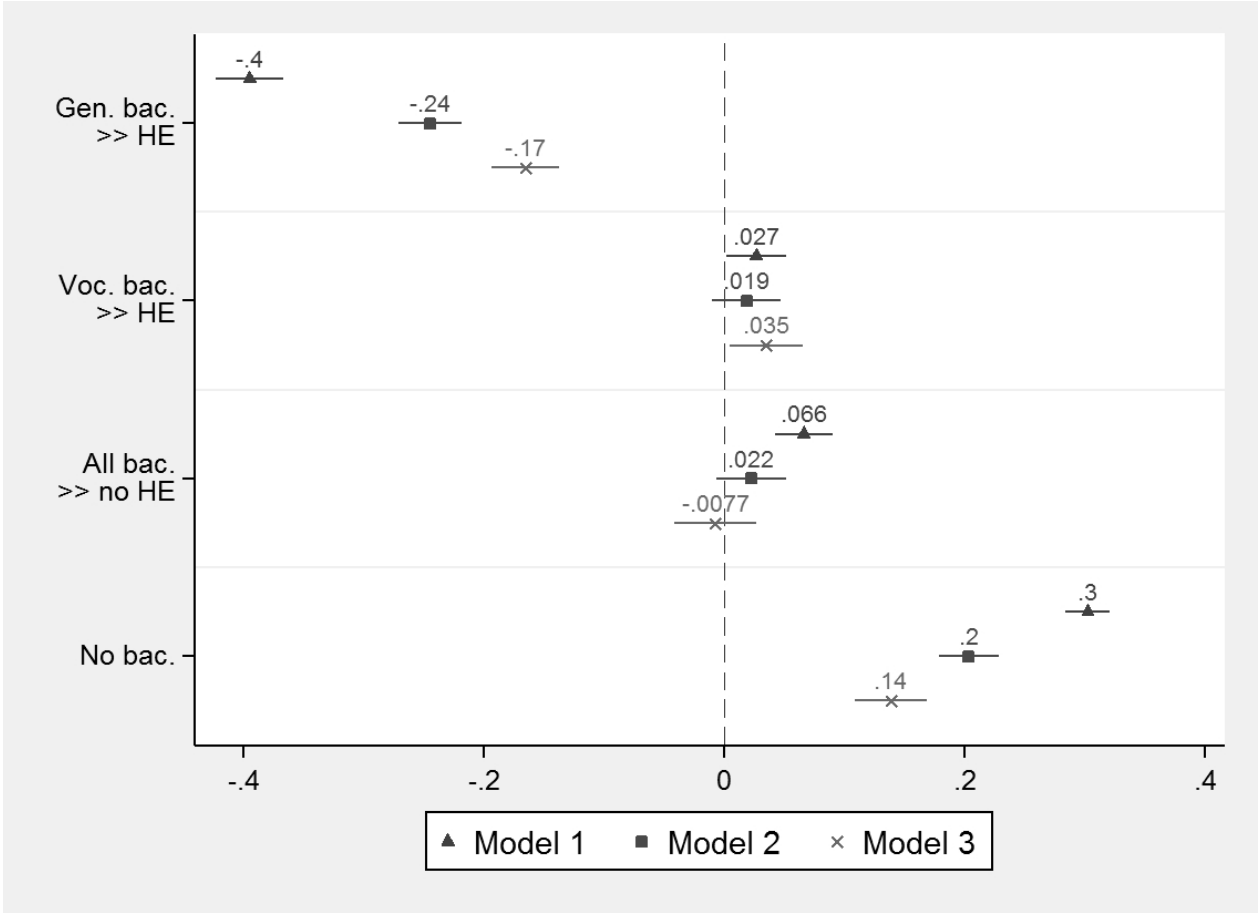
Table 2: Post-compulsory secondary educational qualifications and access to higher education by gender and social background in Switzerland

<i>Upper secondary certificate</i>	<i>Access to higher education</i>	<i>Female</i>		<i>Male</i>		<i>Total</i>
		<i>PHE</i>	<i>PnHE</i>	<i>PHE</i>	<i>PnHE</i>	
General baccalaureate	<i>Yes</i>	54%	26%	39%	20%	34%
		[283]	[191]	[179]	[98]	[751]
Vocational baccalaureate	<i>Yes</i>	8%	10%	21%	14%	13%
		[43]	[73]	[95]	[68]	[279]
Baccalaureate (general or vocational)	<i>No</i>	14%	19%	15%	18%	17%
		[76]	[140]	[67]	[86]	[369]
Vocational education & training	<i>No</i>	23%	44%	24%	49%	36%
		[124]	[321]	[110]	[241]	[796]
<i>Total</i>		<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
		[526]	[725]	[451]	[493]	[2195]

PHE: Parents with higher education; *PnHE*: Parents without higher education.

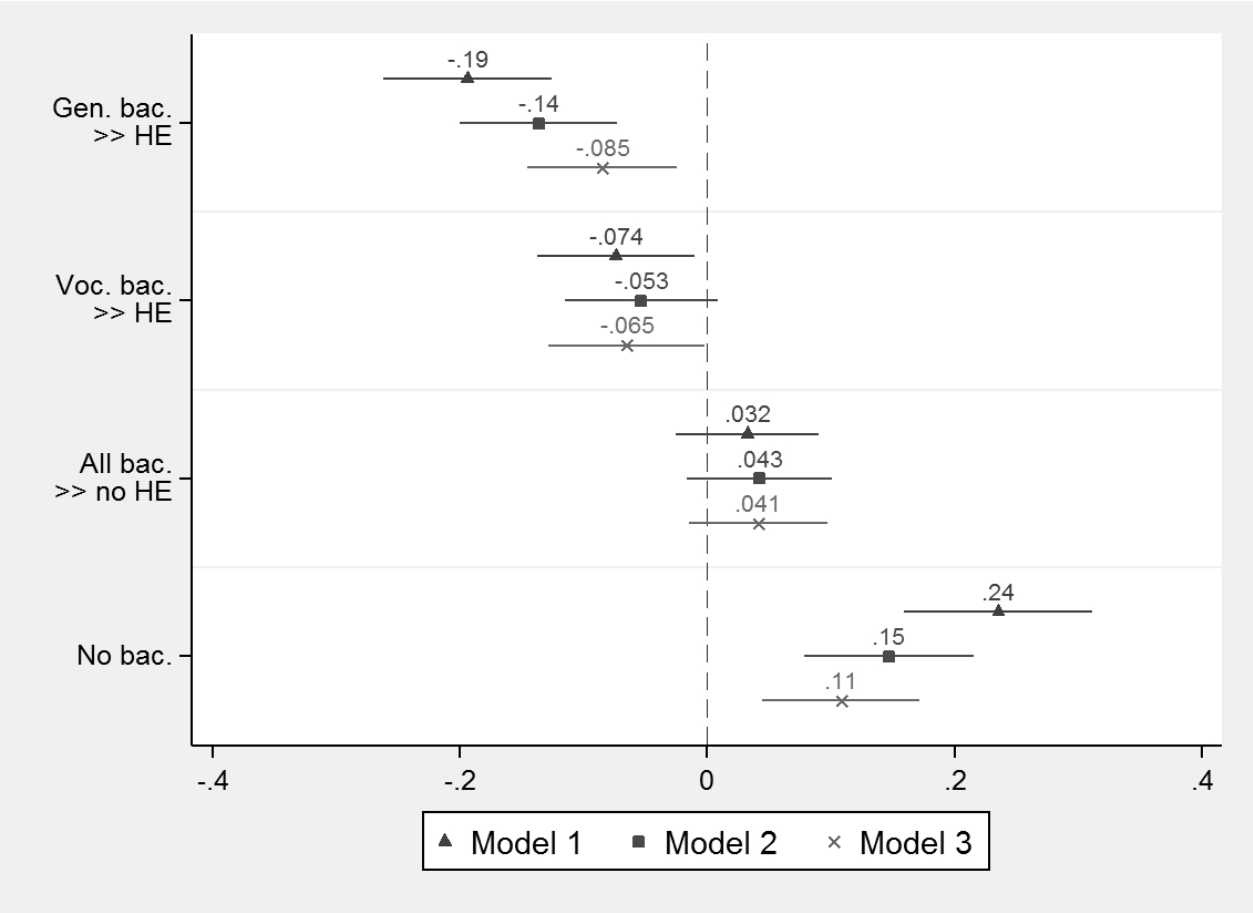
Data: Panel TREE

Figure 1: Educational pathways of young men in France: differences by social background (AMEs)



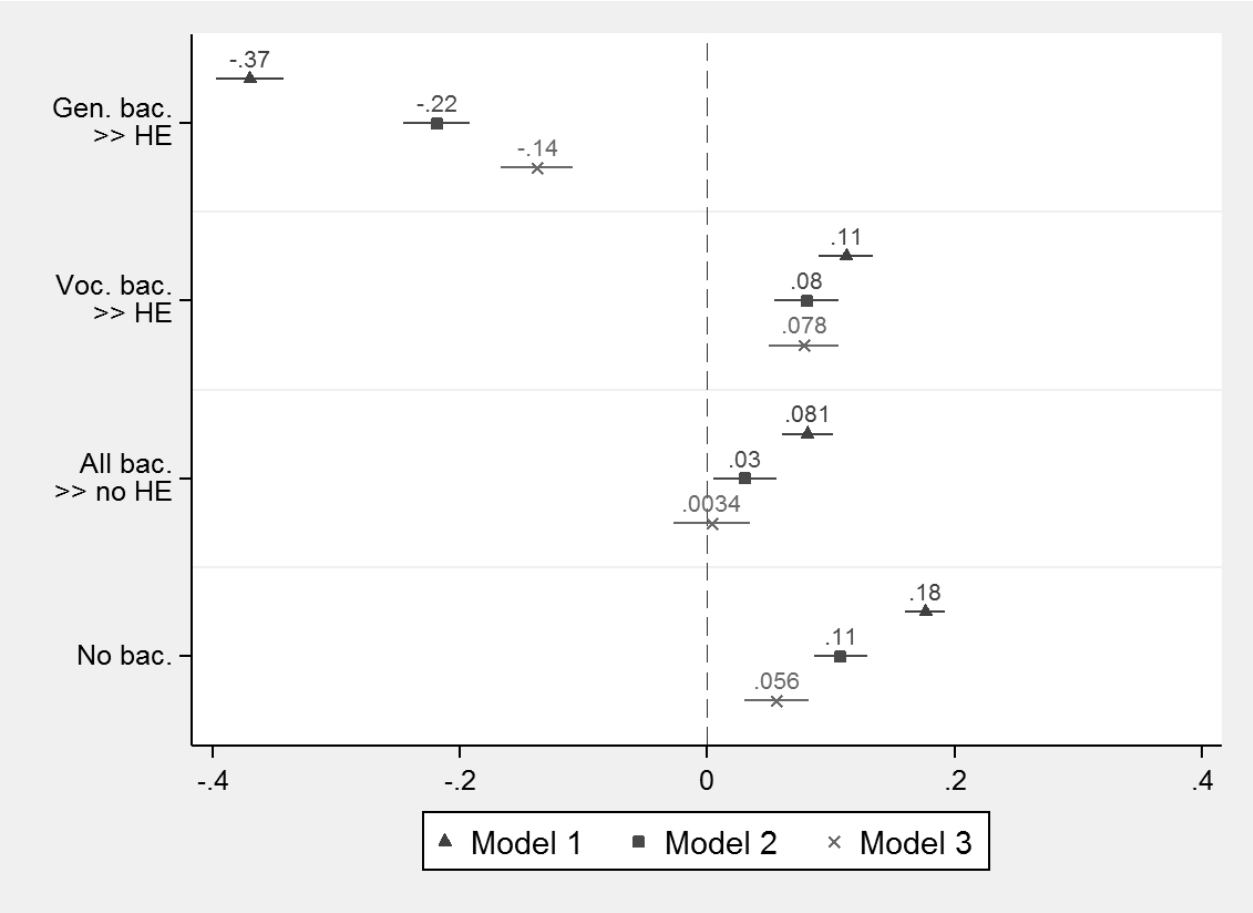
Data: Panel DEPP

Figure 2: Educational pathways of young men in Switzerland: differences by social background (AMEs)



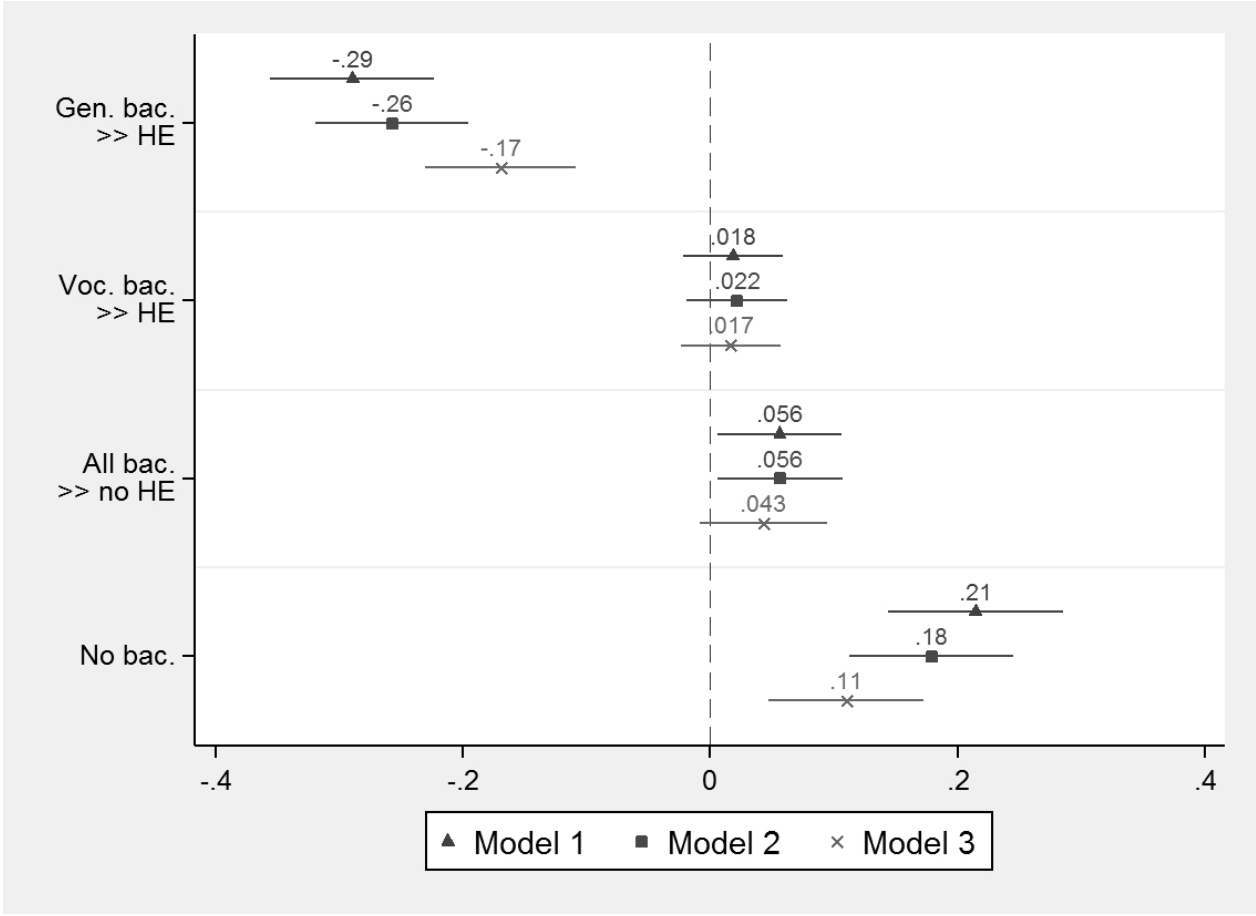
Data: TREE

Figure 3: Educational pathways of young women in France: differences by social background (AMEs)



Data: Panel DEPP

Figure 4: Educational pathways of young women in Switzerland: differences by social background (AMEs)



Data: TREE