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Have working class girls caught up? Social inequality among women in first- and second-tier institutions of higher education in Germany

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Abstract

In Germany as in many other industrialised countries participation rates of women in higher education have markedly increase and enrolment rates of men and women are nowadays almost equal. The increase of participation in higher education among women has affected both, graduation from higher institutions (universities) and lower tier institutions (*Fachhochschule*). Regarding changes of inequalities in education due to social background, previous research has shown that in spite of expansion and differentiation of higher education inequalities have not disappeared. For example, working class children more often opt for the less costly and risky *Fachhochschule* whereas children from higher social classes prefer universities. Although both aspects gender and class differences have already been examined broadly in previous research, only a few studies go into more details by e.g. concentrating on the effect of social class background among the increasing share of female graduates. In this paper I will look at women only and examine changes in the effects of family background on women’s participation in higher education. In the empirical analyses I use pooled data of four Germany surveys: the German general social survey (ALLBUS 1980 – 2006), ZUMA Standarddemographie (ZUMABUS) 1976 – 1982, German Socio-Economic Panel (GSOEP) 1986, 1999 and 2000 and German Life History Study (GLHS) I to III.

Keywords: gender, higher education, family background, social class

Words: 5.840

1 Introduction

In Germany as well as in other European countries in particular young women profited from the educational expansion. In Germany, female educational attainment in terms of educational school levels has even surpassed that of young men and participation in higher education has reached equity with men. Whereas in the mid-seventies less than 40 percent of all entrants to higher education had been females, in 2007 the share of women among first year students equals the male's. However, besides this convergence there are still differences between men and women in terms of which type of higher education they choose. In Germany, two different tracks of tertiary tracks exist: the traditional universities and the less prestigious *Fachhochschule*. For women once the decision to enter higher education is reached, they are even more likely to enrol in universities than men as nowadays more than 54 percent of university entrants are female. In contrast, in the *Fachhochschule* only 40 percent of first year students are female (Statistisches Bundesamt 2007).

Recently there has been growing interest in social selectivity at tertiary level (e.g. Shavit et al. 2007). The impact of socioeconomic origin on educational choices is found to be lower at these higher levels of education, but nevertheless social inequalities still exist even if previous educational achievement is held constant (Jacob 2003, Mayer et al. 2007; Hillmert and Jacob 2009). There are further differences within higher education regarding participation in first and second tiers of higher education in Germany. For those that actually are entitled to enrol, children from less privileged backgrounds still opt more often for lower tier tertiary institutions, the German *Fachhochschule*. This respect Mayer et al. (2007) even observe a growth of class inequalities over time in participation in higher education.

Only few studies have combined these two observations, the increasing share of women in higher education and increasing class inequalities in post-secondary transitions and outcomes. In this paper I analyse to what extent the increasing participation of women in higher education is related to class inequalities among women and whether there is variation of this relation over time and between first and second tier institutions: *Are there differences in graduation rates between daughters from different class backgrounds? Has this relation of gender and class changed over time? Are there family differences regarding graduation at university or Fachhochschulen?*

On the one hand, the increase in female participation might be a general trend over all social strata and social differences among women remain constant. On the other hand, it might also be the case that only women from particular social backgrounds have profited from educational expansion: for example, working class daughters might have caught up with their higher class peers as more opportunities and/or incentives to graduate have been introduced

over time. In that case working class daughters would have become more similar in their educational choices to upper class daughters and social differences would decrease over time. On the other hand, it could also be the case that mainly daughters of higher classes benefitted from educational expansion and class inequalities among women even exacerbated over time. Taking into account the two different tracks in German higher education there might be further differences between daughters of different families. If the lower tier of higher education might be more attractive for working class daughters than for their female peers of more privileged backgrounds, universities would remain socially exclusive.

These assumptions will be tested empirically using pooled of four Germany surveys: the German general social survey (ALLBUS) 1980 – 2006, ZUMA Standarddemographie (ZUMABUS) 1976 – 1982, German Socio-Economic Panel (GSOEP) 1986, 1999 and 2000 and German Life History Study (GLHS) I to III. This dataset allows to examine women born from 1900 until the late 1970s thus covering participation in higher education over almost the whole 20th century.

2 Tertiary education in Germany

2.1 Institutional setting

There had been major changes in tertiary education in the last decade in many respects. I will mention these changes here but due to data limitations I cannot extend the empirical to these most recent developments as this would require data which is not yet available.

The formal requirement to enter tertiary education in Germany is successfully passing upper secondary education and attaining the *Abitur* or a vocationally oriented *Fach-Abitur*.¹ The German higher education system can be classified as a “binary stratified” system (Goedegebuure et al. 1996) with universities as higher tier and *Fachhochschulen* as lower tertiary institutions. According to the official report in 2007 there have been a total of 385 institutions of tertiary education that are approved by the state (KMK 2007). The important differentiation of first and second tier institutions within tertiary education was institutionalised in 1970 by the introduction of the *Fachhochschulen* that were build on already existing vocational colleges but also newly established.² Universities and *Fachhochschulen* differ in several respects, e.g. in provision of degrees, array of courses and

¹ Whereas the *Abitur* provides eligibility for all university courses, the *Fach-Abitur* or *Fachhochschulreife* provides only access to *Fachhochschulen*.

² There are some other institutions that are part of the tertiary system .g. *Berufsakademien* but these are regionally concentrated. Therefore in the following I will concentrate on the two main types, the universities and *Fachhochschule*.

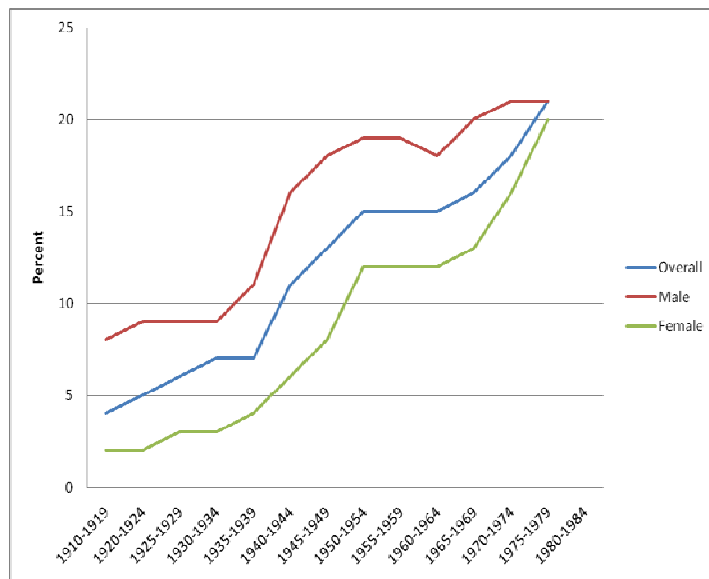
fields of study, the length of study and labour market outcomes.³ There is a clear status difference between these two types of institutions. Recently, the *Fachhochschule* tries to catch up with universities, e.g. by naming itself “university of applied sciences” or by supporting the attainment of Ph.D.-degrees that had been formerly an exclusive privilege of universities. Still, only universities offer ‘full’ graduation whereas degrees attained in *Fachhochschulen* have to be labelled as such. Regarding fields of study, *Fachhochschulen* focus on vocationally-oriented tertiary education in a limited range of subjects accompanied by internships and practical experiences, whereas universities offer courses in all fields of studies. Traditional professions (medicine, law etc.) as well as most studies in arts and humanities are mostly offered in universities. Graduation at *Fachhochschulen* can be achieved in a shorter time as courses usually last about 4 years whereas in universities on average more than 5 years have to be spent before obtaining a degree. Until recently, there were no tuition fees in public institutions of higher education but due to the different length of study opportunity costs of university attendance had been obviously higher. This has changed recently with the introduction of the Bachelor/Master system that had led to a further convergence of the two tiers of higher education in terms of course length that might also be reflected in converging labour market outcomes. Besides, since recently universities had been considered to be more or less equal in quality and there was no strong hierarchy *among* universities. A few universities had been awarded “elite universities” in 2007 and 2008.

2.2 Participation of women in higher education

As in many other countries in Germany, participation in higher education increased sharply over the last century. In particular during the last decades gender differences reduced markedly. Figure 1 shows graduation rates of men and women of several birth cohorts i.e. the proportion of those that attained a tertiary degree in the respective birth cohorts. Whereas in the birth cohorts 1910 to 1919 only 8 percent of all men graduated and 2 percent of women, nowadays the share amounts to 21 resp. 20 percent of cohorts born at the end of the 1970s. For women there had been a steep increase in participation rates for those born in the 1930s to until the cohorts of the 1950s. We then observe a phase of stagnation until those born from the 1960s on when participation in higher education increased again up to the youngest cohorts of the end 1970s.

³ Other differences like employment conditions for academic staff that are also contribute to the status difference and hierarchy between university and *Fachhochschule* are not discussed here.

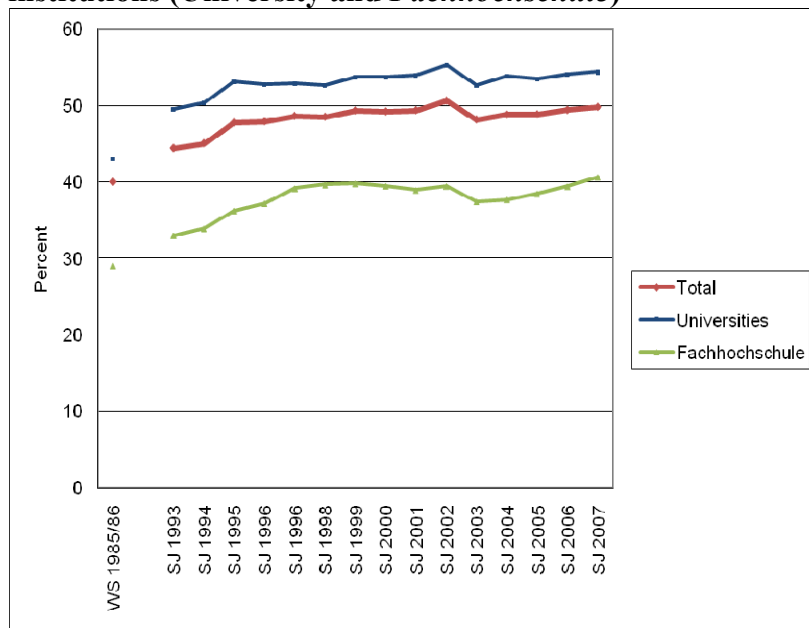
Figure 1: Proportion graduating from higher education by five-year birth cohorts



Source: Legewie and DiPrete (2008), Mikrozensus data

Regarding participation of women in higher education, the share female first year students increased from 1975 to 2008 from 37 percent to 50 percent (Figure 2 and Figure 3, bold red line), unfortunately no older official data is available. In the eighties the percentage of women remained almost constant at about 40 percent (Figure 3, bold red line), a slight increase can be observed in the early nineties up to almost 50 percent followed by a stagnation on this level since then. Women are overrepresented in universities and underrepresented in *Fachhochschulen* (Figure 2). In 2007 the proportion of women among first year students in universities amounts to 54 percent whereas in *Fachhochschule* only 41 percent of those enrolling are females.

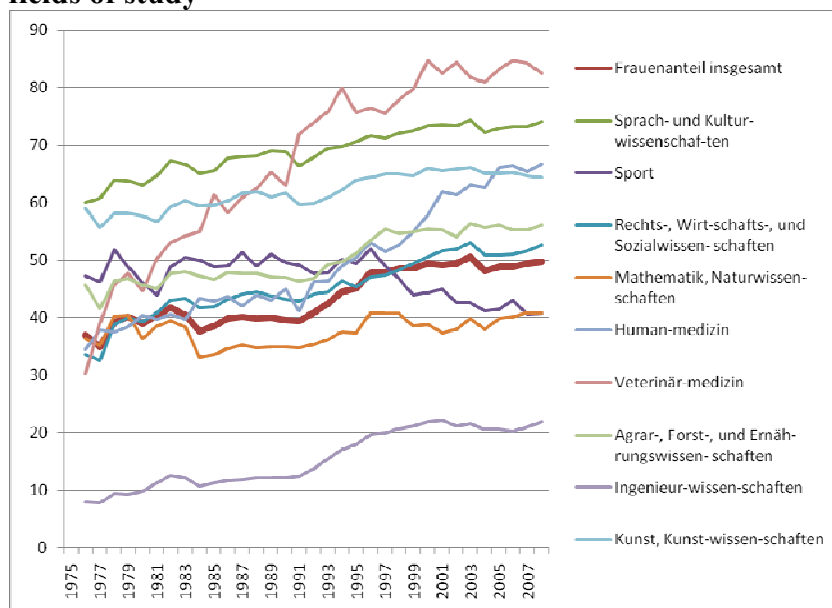
Figure 2. Proportion of women among first year students in upper and lower tier institutions (University and *Fachhochschule*)



Source: WS 1985/86: HIS 2005:16; all other years: Statistisches Bundesamt

Gender differences that go along with institutional differentiation in universities and *Fachhochschule* are reflected in the choice of fields of study. Fields that are mainly taught in universities such as humanities and arts are female dominated fields whereas the typical field of *Fachhochschule*, engineering, are male dominated. However, the share of women in different fields changes quite markedly over time (England et al. 2007 for the US).

Figure 3. Proportion of women among first years students between 1975 and 2008, by fields of study



Source: Bildungsbericht (2008)

3 Gender and class differences in higher education

Although there is a lot of research on inequality of educational attainment by social class of origin, only a few recent studies have examined class differences in graduation rates. Even less research can be found that focuses explicitly on class differences in graduation among women over time. In the following some results of selected previous studies on gender differences by social classes are presented.

Being part of a recent comparative study on differentiation and social stratification in higher education the very detailed analyses of Mayer et al. (2007) show that in Germany overall social inequalities in attaining higher education have been decreasing over time until cohorts born in the 1960s. Restricting the analyses to school leavers that are actually entitled to enrol, the authors find a reverse patterns. Among those holding *Abitur* class differences have increased as working class children more often choose vocational training and opt for the lower tier of tertiary education. Comparing men and women, women are still less likely to enter higher education than men. Nonetheless, if women enter tertiary education they are more likely to study at universities and less likely at *Fachhochschulen*. The authors explain this finding by the different (gender-specific) fields of study the upper and lower tier offer. Combing the results on class and gender, Mayer et al (2007) report that in particular working class sons are less likely to obtain a university degree than working class daughters and that these gender differences have remained stable over time. A similar result is found by King (2000) and Bozick and de Luca (2005) who find that the gender gap is wider among working class than among middle class children.

Reimer and Schindler (2007, Equalsoc Berlin) also look at gender differences in higher education. They find that the increase of transition rates into higher education between 1993 and 1999 was more pronounced for females but still below their male peers. The authors add that the pace of the expansion of female participation rates in higher education varies across classes such as class inequalities in access to higher education are even more pronounced within the female subgroup than between men of different class of origin. Descriptive results of DiPrete and Legewie (2009, Schmollers) on attaining the *Abitur* show a 39%-points difference between women of very low educated and very high educated backgrounds that increases to a 45%-points difference in the younger cohort. For the US, Buchmann and DiPrete (2006) find that women born before 1960 had the same chances to enter college education only in the minority of families whose parents both were college educated, whereas parents with less education appeared to favour sons over daughters. For those born the 1960s the male advantage declined and even reversed in households with less well educated parents. In particular enrolment rates of men declined in families with an absent father.

... to be completed ...

As the main interest of these studies had been either to examine class differences in general or changes of the gender gap over time, these studies did not look very closely at differences within the female subsamples. By estimating separate models for men and women and/or include interaction terms in most studies there is evidence that there are (also) differences between social classes among women. In the next section I will draw theoretical considerations of rational decision making that have been commonly used in educational research and specify it to women and their families.

4 Theoretical background

4.1 Rational decision making in higher education

Following the distinction of Boudon (1974) primary and secondary effects of social origin cause differences in educational achievement of lower- and upper-class children. Primary effects are those effects mediated through lower performance of children with less privileged socioeconomic background. Secondary effects are inequalities in educational attainment due to different educational decisions of different classes. From a sociological point of view, in particular the secondary effects are of interest, i.e. differences in educational decisions. Several authors have developed such a (rational) decision model to explain class differences (e.g. Breen and Goldthorpe, 1997; Erikson and Jonsson, 1996, Hillmert and Jacob 2003) discussing cultural distance to higher education, its duration, expected success and returns as well as real and opportunity costs as relevant factors in that decision. According to that model of educational decisions, children from privileged families are advantaged because their parents are more familiar with higher education, the parents are better able to compensate for failures of the children thanks to their social and cultural resources and they are more able to bear the costs of education. Although most of these models were originally formulated for decisions in secondary education, they can easily be transferred to higher education - even if decision making is more an individual than a family decision. The use of parental social ties, experiences of former schooling periods and the aim to achieve the parental status can motivate equally the student itself as his/her family.

The expansion of education alongside with institutional differentiation may have changed these parameters for different educational alternatives over time. In the German context, the *Fachhochschule* offers a less costly and less risky alternative to *universities* alongside with a provision of more vocationally oriented courses. Hence, in particular the *Fachhochschule* might have attracted working class children.

4.2 Differences among women and changes over time

According to rational choice theory models the increasing participation of women over time can be explained by changes in benefits and costs. These changes of costs and benefits of education occurred on different levels: On a system level the growth of employment opportunities in particular in the professional and semi-professional sector changed the expected benefits of higher education for women as higher education pays off in the labour market. Hence, increasing participation is a result from stronger incentives to invest in higher education.⁴ On the family level it can be assumed that increasing wealth and assets of families during the last decades have made it possible to bear the costs of higher education of both sons and daughters. If surplus resources have been used for the girl's education leading to higher rates of participation of women in higher education.⁵ On the individual level, higher educated mothers and an increase of female teachers serving as role model for girls lead to an increase of educational attainment in the next generation of daughters.

This rather general explanations for the overall increase of women in higher education are now specified to derive hypotheses differences among women from different class backgrounds and changes of class differences over time.

(1) Differences between middle and upper classes

Regarding the argument of increasing employment opportunities I expect that these employment opportunities in professional and semi-professional occupations in particular motivated women from middle classes backgrounds to participate in higher education. Whereas women from higher classes might have been reluctant of labour market participation due to a lower work commitment of these women – at least until the second half of the 20th century - women from lower classes either had already worked in the manual sector and/or entered employment opportunities and occupations without needing higher credentials. Therefore, it is expected that daughters of middle class families increased participation in higher education relative to daughters from higher social classes. Class differences increased and later decreased.

(2) Differences between working and upper classes

Regarding distribution of resources within families it can be assumed that daughters from higher classes already had been sent to education if there had been surplus money. In lower class families that traditionally favoured son's education, the increase in participation rates of

⁴ Besides labour market outcomes, higher education might also be increasingly relevant for women in the marriage market providing further incentives to invest in education.

⁵ Besides changes in the 'core' parameters of rational choice theories, there are other theories explaining the increase of female education e.g. by gender specific role models and the increase of mother's education and/or increasing number of female teachers have enhanced female participation in higher education.

women might have been stronger than in families with an already more equal distribution. In this case the increase of daughters of working class families would be more pronounced than the increase of daughters from service class families. Therefore it is expected that participation rates of women from lower social class backgrounds increased at a greater speed than participation rates of higher classes. That is, class differences between service class daughters and working class daughters decreased over time.

(3) Differences among classes regarding university vs. Fachhochschule

Given that surplus resources are not evenly distributed across families and that studying at universities still requires more resources than studying at Fachhochschule, the increase in female participation in universities should be stronger for daughters from higher social classes. Furthermore, as *Fachhochschulen* provide a particular array of fields of study these are also more appealing to working class backgrounds. From this, I derive the hypotheses that the increase in higher education is not evenly spread among social classes as women from better off backgrounds more often opt for upper tier institutions whereas women from working classes increasingly tend to enter *Fachhochschule*. Hence, it is expected that working class daughters have caught up over time, but only in *Fachhochschulen* whereas universities still remain socially selective.

5 Data and methods

Analysing social inequality among women and its changes over several decades requires a dataset providing information on women's participation in education as well as their social class origin over a long period. A dataset that includes most of the information for such an analysis is the cumulated dataset provided by Walter Müller and colleagues (Müller and Pollak 2000). It is a pooled dataset using four data sources from German surveys: the German general social survey (ALLBUS 1980 – 2006), ZUMA Standarddemographie (ZUMABUS) 1976 – 1982, German Socio-Economic Panel (GSOEP) 1986, 1999 and 2000 and the German Life History Study (GLHS) I to III. The main advantage of that dataset for the analysis is its large size that allows to compare women born from the beginning of the 20th century almost until its end. The dataset comprises of a total of 47 681 women. I restrict the analysis to West German women excluding women born in East Germany. I further limit the analysis to respondents that were born in 1900 or later and who were no older than 30 years at the time of interview. This leaves me with 31 860 women born between 1900 and 1978.

As most of the original datasets are cross-sectional surveys the cumulated datafile also is cross-sectionally only giving no information about the respondent's educational career. Hence, the independent variable is operationalised by highest educational attainment of the

respondent, i.e. having attained tertiary graduation or not resp. graduation at university vs. *Fachhochschule* (cf. Hillmert and Jacob 2009 for limitations of looking at final attainment only). Although the term *Fachhochschule* strictly speaking refers to lower tier institutions that have been mainly introduced since the 1970s, in the data there are some cases in older cohorts that have also been assigned to *Fachhochschule* degree but in fact graduated from institutions preceding the *Fachhochschule* (e.g. schools of engineering, schools of social work, teacher training colleges). Of all women in the sample 2 458 cases attained tertiary graduation.

The main dependent variable social class refers to father's class at respondent's adolescence measured by a simplified EGP class schema relying on information about father's employment (Erikson et al. 1979; see Appendix A1 for coding). The main focus of this paper concerns changes over time so I used the respondents age at the time of the interview to create birth cohorts. These are categorized into eight intervals (1900-1914, 1915-24, 1925-34, 1935-44, 1945-54, 1955-64, 1965-78). The distribution of the variables in the sample are shown in the Appendix (Table A2).

I conduct several analyses: The first set examines the unconditional probability of graduating from tertiary education. All respondents are included into the analyses. Logistic regression are applied to analyse trends in the probability of participation in higher education. Second, conditional models are estimated that provide estimates of the probability of participation in higher education, conditional on having attained Abitur, the prerequisite for enrolment. In the latter case birth cohorts have to be categorized into broader intervals. Finally a set of models was run to compare graduation at university vs. *Fachhochschule*.

6 Results

Interpretation to be extended

6.1 Attaining tertiary graduation

In this section I present models of the cohort and class effects and then elaborate with interactions between cohort and social class background. Table 2 contains estimates of attaining a tertiary degree for women in West Germany born between 1900 and 1978. Model 1 only includes cohort dummies, Model 2 adds father's class. In Model 3 interactions effects of cohort and the intermediate class and the working class are included.

Table 1. Logistic coefficients of tertiary graduation for West German women born between 1900 and 1978

	Model 1	Model 2	Model 3
Cohorts (Ref. 1900-1914)			
1915-24	0.423***	0.350**	0.205
1925-34	0.601***	0.594***	0.516***
1935-44	1.066***	1.004***	0.830***
1945-54	1.579***	1.555***	1.263***
1955-65	1.970***	1.929***	1.589***
1965-78	1.901***	1.778***	1.499***
Father's Class (Ref. Service Class)			
Intermediate		-1.375***	-0.829***
Self employed and farmers		-1.467***	-2.302***
Working class		-2.634***	-2.320***
Missing		-1.666***	-2.672***
Interaction			
Intermediate class * cohort 1915-24			0.306**
Intermediate class * cohort 1925-34			0.717***
Intermediate class * cohort 1935-44			0.660***
Intermediate class * cohort 1945-54			1.038***
Intermediate class * cohort 1955-64			0.959***
Intermediate class * cohort 1965-78			0.720**
Working class * cohort 1915-24			0.140
Working class * cohort 1925-34			-0.549
Working class * cohort 1935-44			0.329
Working class * cohort 1945-54			0.684+
Working class * cohort 1955-64			0.946**
Working class * cohort 1965-78			0.874*
Constant	-3.640***	-2.241***	-2.202***
Pseudo R ²	0.048***	0.159***	0.161***
N	31860	31860	31860

Source: Cumulated dataset (Müller and Pollak 2000), own calculations
 Level of significance: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The results of model 1 provide clear evidence that female rates of tertiary graduation have risen over time. Compared to the reference group of women born at the beginning of the 20th century women of all later cohorts have a significantly higher probability of graduation. For example, women born around 1950 have a 4.9-times greater odds ($e^{1.579}$) of attaining a degree than the oldest cohort. Comparing the two youngest cohort no (further) increase can be observed. The odds of the youngest cohort are 7 times greater than the odds for attaining graduation of the oldest cohorts.

By including father's class into the model, the model improves markedly as Pseudo-R² rises from 5 to 17 percent. As in other studies I also find that father's class is strongly related to the child's educational attainment. Compared to daughters from service classes those from all other class are less likely to hold a tertiary degree. In particular daughters from working class origin are severely disadvantaged: Their odds of graduation are 14-times lower than for daughters with service class backgrounds ($1/e^{-2.634}$).

Interaction effects can show if class differences changed over time as I expected in the first and second hypothesis. Model 3 includes an interaction effect for cohort and the intermediate

class and the working class. Regarding the intermediate classes it turns out that there are also significant changes over time, in tendency a reduction of the main effect until the cohorts around 1960. This trend disappears for the younger cohorts. For the working class I find that from 1950s cohorts onward the relative risk of graduation significantly decreases for working class daughters i.e. the class differences get weaker over time with some stagnation for the youngest cohorts. In figure 3 predicted probabilities are shown for model 3.

Include a pred.prob plot for model 3 for x-axis cohorts and lines for classes

6.2 Graduation after having attained *Abitur*

The analyses shown in Table 2 restricts the sample to only those women that have achieved *Abitur* and that are entitled to enrol (so called ‘conditional model’).

Table 2. Logistic coefficients of tertiary graduation for West German women born between 1900 and 1978 with *Abitur*

	Model 4	Model 5	Model 6
Cohorts (Ref. 1900-1914)			
1915-24	0.064	0.058	0.160
1925-34	0.235	0.237	0.318
1935-1944	0.850***	0.896***	1.006***
1945-1954	1.072***	1.159***	1.249***
1955-1965	0.505**	0.612***	0.770***
1965-1978	0.065	0.139	0.335
Father's Class (Ref. Service Class)			
Intermediate		-0.360***	0.092
Self employed and farmers		-0.215*	-0.216*
Working class		-0.735***	0.025
Missing		-0.443***	-0.441***
Interaction			
Intermediate class * cohort 1915-24			-0.249
Intermediate class * cohort 1925-34			-0.126
Intermediate class * cohort 1935-44			-0.514
Intermediate class * cohort 1945-54			-0.144
Intermediate class * cohort 1955-64			-0.672
Intermediate class * cohort 1965-78			-0.730
Working class * cohort 1915-24			-0.205
Working class * cohort 1925-34			-0.649
Working class * cohort 1935-44			-0.621
Working class * cohort 1945-54			-0.931
Working class * cohort 1955-64			-0.772
Working class * cohort 1965-78			-0.940
Constant	-0.244	-0.064	-0.179
Pseudo R ²	0.025***	0.036***	0.038***
N	3843	3843	3843

Source: Cumulated dataset (Müller and Pollak 2000), own calculations

Level of significance: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In these models, the cohort differences are no longer significant. In tendency, for women born between 1935 and 1965 an increase in graduation can be observed, in particular for those

born in the 1940s and beginning of 1950s that achieved the *Abitur* in the post-war years. Their odds of holding a degree are up to 3-times greater than the odds of the oldest cohorts. As we have already seen in the unconditional model cohort differences among women get weaker in the second half of the century compared to the oldest cohort. The very small effect for the youngest cohort might also be due to the fact that sample size in this group is rather small and that these women have not yet achieved their final educational attainment. For class differences we get the same picture as above: Strong disadvantages for working class daughters compared to the service class and less pronounced differences for the intermediate classes and self-employed/farmers. The interaction effects however are not significant for neither intermediate classes nor the working class. In sharp contrast to the unconditional mode here we see negative coefficients indicating that class differences are increasing. However, there is no linear trend for both classes. For the intermediate class in particular the younger cohorts differ, for the working class we see strongest effects for those born around 1950 and for those around 1970.

Include a pred.prob plot for model 3 for x-axis cohorts and lines for classes

6.3 Graduation at *Fachhochschule* vs. university

In the last hypothesis it was expected that class differences are less in lower tier institutions, i.e. the German *Fachhochschule* than in universities. To test this hypothesis I estimated a third set of logistic regression model comparing graduation at *Fachhochschule* (reference category) and universities. The results of these models are shown in table 3.

If the decision for tertiary education is reached there are no significant differences between cohorts to enter prefer university over *Fachhochschule*. But there are clear effects of social origin: Daughters from service class are much more likely to graduate at university compared to all other classes. For working class daughters the odds of attaining university graduation compared to lower tier are only half the odds of daughters from the upper class. The interaction effects show that for working class daughters of younger cohorts the class difference are even larger than for older cohorts. The results support the third hypothesis that class differences for enrolling at universities had been increasing over time as when the option of lower tier graduation had become more widespread.

Table 3. Logistic coefficients of tertiary graduation at *Fachhochschule* vs. university for West German women born between 1900 and 1978

Cohorts (Ref. 1900-1914)			
1915-24	-0.101	-0.074	0.080
1925-34	0.049	0.060	0.136
1935-1944	0.114	0.166	0.307
1945-1954	0.388	0.496*	0.632*
1955-1965	0.134	0.248	0.448+
1965-1978	-0.195	-0.170	0.127
Father's Class (Ref. Service Class)			
Intermediate		-0.468***	-0.132
Self employed and farmers		-0.634***	-0.636***
Working class		-0.694***	0.966
Missing		-0.594***	-0.585***
Interaction			
Intermediate class * cohort 1915-24			-0.343
Intermediate class * cohort 1925-34			0.058
Intermediate class * cohort 1935-44			-0.332
Intermediate class * cohort 1945-54			-0.325
Intermediate class * cohort 1955-64			-0.350
Intermediate class * cohort 1965-78			-0.552
Working class * cohort 1915-24			-0.446
Working class * cohort 1925-34			-0.675
Working class * cohort 1935-44			-1.548
Working class * cohort 1945-54			-1.552
Working class * cohort 1955-64			-1.884+
Working class * cohort 1965-78			-2.354*
Constant	0.725***	0.979***	0.826***
Pseudo R ²	0.005*	0.020***	0.024***
N	2458	2458	2458

Source: Cumulated dataset (Müller and Pollak 2000), own calculations

Level of significance: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

7 Conclusions

...to be completed...

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Appendix

Table A1: EGP Class scheme and simplified version

Full EGP Class Scheme Categories		Simplified Version
I	Professionals and managers, higher grade	Service Class (1)
II	Professionals and managers, lower grade; technicians, higher grade	Service Class (1)
IIIa	Routine nonmanual employees, higher grade	Intermediate (2)
IIIb	Routine nonmanual employees, lower grade	Working Class (4)
IVabc	Small employers, self-employed workers and farmers	Self-employed and farmers (3)
V	Technicians, lower-grade supervisors of manual workers	Intermediate (2)
VI	Skilled manual workers	Working Class (4)
VIIab	Nonskilled manual workers	Working Class (4)

Table A2: Distribution of variables

To be included