Displacement or selection?
Two explanations for the increasing labor market
vulnerability of less-educated persons

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Summary

In sociological research, the usual explanation for the disadvantaged labor market position of less-educated persons is that they are "displaced" by higher qualified persons. The paper investigates an alternative, far less established explanation, namely "selection." It is reasonable to assume that those persons who escaped from the "camp of the less educated" over the past few decades were not a random sample of the population. The remaining individuals are most probably a "negative selection" in terms of learning and cognitive competencies relative to the standard norm of the given birth cohort. Their increasing labor market vulnerability would still result from increased job competition, but the disadvantages caused thereby would be less a consequence of displacement, but rather of this "creaming-out" process. Moreover, if those who remain untrained are not randomly distributed within the social stratification system, this hypothesis includes an explanation of how this lack of ability and skill is socially produced and constructed. In contrast to the displacement argument, it locates inequality of opportunities earlier in the life course – as a selection process in the educational system – and does not simply state that at labor market entry higher-educated persons outperform the less educated. Based on a historical comparison of native-born West Germans, the paper presents empirical findings to strengthen the relevance of the selection argument.

1   Introduction

In all western societies, educational expansion after the Second World War has supplied their labor markets with higher availability of trained young persons (Shavit and Blossfeld, 1993; Erikson and Jonsson, 1996; Mallet, 1998). At the same time, the unemployment rate of the less educated has increased faster than that of other educational groups (Harrison and Weiss, 1998b, 23; Reinberg, 1999). In many countries, less-educated persons constitute a large share of the long-term unemployed. However, their disadvantaged situation not only results from a declining demand for low-skilled labor – a conclusion usually drawn from these figures[1] – because in many modern societies, unskilled persons are less and less able to enter into even unskilled jobs, while a larger number of qualified persons has found work in unskilled occupations (Mallet, 1998, 11).

The main goal of the paper is to explain this increasing vulnerability of less-educated persons in the course of educational expansion. In sociology and economics, the dominant explanation of this vulnerability is provided by the displacement hypothesis, namely that the less educated are displaced by higher qualified persons. This paper focuses on an alternative explanation: an argument about selection. The aim is not only to "control" for social background – as is often done in current quantitative sociological research – but also to make it part of the explanation itself. In short, it will be argued that the persons who escaped from the "camp of the less-educated" were not a random sample of the population. The remaining individuals are most probably a "negative selection" in terms of *relative* ability and social characteristics. Their increasing labor market vulnerability would still result from increased job competition, but the disadvantages caused thereby would be less a consequence of displacement, but rather of this long-term "creaming-out" process.

The advantage of this perspective is – as will be discussed in more detail below – that underlying this concept is an explanation of *how* this lack of ability and skill is *socially* produced and constructed. It includes the idea that it is not the individuals' failure, but the social environment that is responsible for their lower achievement. Whereas displacement happens at a particular moment in time, *after* educational investments must already have been made, the selection hypothesis locates inequality of opportunities earlier in the life course, namely at the point at which in the educational system selection processes occur. It does not simply state that at labor market entry higher-educated persons outperform or outqualify less-educated ones.

The paper begins with an overview of the displacement hypothesis's theoretical reasoning (Section 2). Based on a discussion of its shortcomings, Section 3 develops the selection hypothesis. Sections 4 and 5 present empirical support for this selection hypothesis, based on West German data. The paper concludes with a summary of the empirical results and a discussion of the selection hypothesis in light of current labor market policy (Section 5).

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[1]   See discussion in Section 2.

2 The displacement hypothesis and its theoretical background

In labor market research, the (increasingly) deprived labor market situation of less-educated persons is seen as a joint result of (1) a decreasing demand for unskilled labor, (2) a general shortage of workplaces, and (3) an oversupply of trained persons. The decreasing demand is explained with the assumption that technological progress and the transition towards a service society have changed the nature of skills by asking for a more highly educated labor force (Noyelle, 1986, 102; cf. also Bell, 1976; Atkinson, 1987; Tessaring, 1994; Heise, 1995; Nickell and Bell, 1995; Giloth, 1998; Reinberg, 1999; Thurow, 1999). The conclusion inferred from this assumption is: shrinking employment opportunities for those who do not have such educational qualifications. Moreover, as educational qualifications do not only express technical skills, the "dramatic increase in the demand for what are known as *soft skills*, a collection of behavioral skills related to motivation, teamwork, and problem solving," may have contributed to an increasing soft-skill mismatch with respect to less-educated persons (Giloth, 1998, 5; cf. also Büchtemann, 1998, 20-2). At the same time, educational expansion and decline in labor demand have occurred, resulting in an oversupply of trained people.

Under this situation, the *displacement hypothesis* states that the lower an individual's educational degree, the poorer his or her employment opportunities because the remaining positions are filled by more highly qualified persons, who thereby displace those less educated persons from jobs they carried out previously (e.g., Fürstenberg, 1978; Lutz, 1979; Blossfeld, 1983, 1985, 1990; Kalleberg, 1996; Harrison and Weiss, 1998b; Mallet, 1998).[2] The displacement hypothesis is derived from multiple theoretical backgrounds, which do not compete in explaining displacement, but deliver complementary explanations.

Human capital theory (Becker, 1964; Bowman, 1966) contributes to an explanation of the displacement process more through its scientific support of the widely accepted ideology of meritocracy (cf. Young, 1994; Breen and Goldthorpe, 2000) than as a theory in and of itself (see also discussion in Gregory and Stuart, 1989; Rosenbaum and Binder, 1997). The neoclassical belief that education indicates skills and that job opportunities are distributed according to these skills in order to reward individuals' efforts, backs up "meritocracy" as one (if not the most important) legitimizing ideology in modern societies to accept differences in labor market positions. In societies in which each individual supposedly has similar opportunities to acquire as much education as (s)he can, it seems obvious that differences in educational attainment signal different individual preferences, norms and abilities, and that they are legitimate means to differentially reward educational attainment in so-called meritocratic societies (Bourdieu and Passeron, 1971; Boudon, 1974; Meyer, 1977; Collins, 1979, 3; Althauser

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[2]   Braverman (1974) argued that technological change should lead to an increasingly fragmented labor process that finally results in a reduction of skill requirements for most jobs. The result is "deskilling" on the one side, and a polarization of control and supervision in the hands of management on the other. But even this scenario suggests a displacement process. Since most of the new jobs would be low-wage, low-skill and low-quality, skilled workers would be forced to enter unskilled jobs. In a loose labor market situation, this would lead to an exclusion of less-educated persons because higher qualified persons take "their" low-skill jobs. For skilled workers, this would mean underemployment and downwaging (cf. Bluestone & Harrison, 1988; Harrison & Weiss, 1998a).

and Appel, 1996; Furlong, 1997, 70; Tilly, 1998, 242). In this connection with meritocratic ideology, human capital reasoning is an important precondition for the efficacy of the following theoretical approaches. They redefine education as an indicator of *probabilistic* marginal productivity and/or take into account the relation between supply of and demand for labor as well as the closed nature of employment relationships.

The underlying assumption of *signaling theory* (Spence, 1974; Stiglitz, 1975) is that employers are faced with uncertainty about the productive capability of job applicants in most hiring situations. They use *signals* in the form of observable individual attributes to gain information about his or her productivity (Spence, 1974, 3). Therefore, employers' hiring decisions are driven, not by observations of *actual* productivity, as human capital theory assumes, but rather by *probabilistic* estimates of individuals' competence based on their group membership (Spence, 1974, 8; Thurow, 1975, 172; England, 1994, 60). Judging individuals by group characteristics is known as "statistical discrimination" (Arrow, 1985). The aim is to reduce a diversity of factors into one single indicator in order to increase the probability to choose "individuals who are less bothered by the difficulty of sustained, disciplined attention to more or less complex cognitive tasks" (Bridges, 1996, 175). Educational credentials are conceived as such a signal of desirable attributes because they are judged to be merit achieved through hard work. They seem to "signal a long-lasting effort of education which is taken as an indicator of positive (advantageous) personality characteristics by the employers" (Graff, 1996, 278), despite the fact that employers have "quite imprecise conceptions of the skill requirements of most jobs" (Collins, 1971, 1018):

> "... the labor market attempts to distinguish between workers with different productive abilities, and as a result it needs information about new entrants. When the educational and training system provides this information, firms exploit it directly and do not necessarily invest in improving their perceptions of each individual's productive characteristics" (Margolis et al., 2000, 20).

The *vacancy competition model* (Sørensen, 1977, 1979; Sørensen and Kalleberg, 1981; Thurow, 1975, 1979) states that employers' hiring decisions are driven by a probabilistic belief, not of the *absolute*, but of the *relative* productivity of job applicants. It uses the signaling function of education, but takes into account that hiring processes are determined by the labor supply *and* demand. Moreover, because of the usually closed nature of employment relationships (Weber, 1976; Sørensen, 1983)[3], the employers' interest is to minimize the risk of "bad" decisions and to hire the most promising candidate – in terms of productivity – among those available for the job, at the least cost (Sørensen and Kalleberg, 1981, 65-6; Thurow, 1999, 145; Baron and Pfeffer, 1994). Employers rank all job applicants according to their expected training costs and match this queue of persons to the queue of vacant jobs (Thurow, 1975; Sørensen and Kalleberg, 1981, 66; Coleman, 1991, 6). In this ranking procedure, formal qualifications or credentials – in their function as signals – define a competitive advantage for credential-holders in labor markets. This advantage depends on how many others have more or

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[3]   Because of rules governing dismissals, transactions costs due to on-the-job-training arrangements and the interdependencies among jobs in divisions of labor, employers' recruitment decisions are usually thought to be of long lasting value (Sørensen, 1983, 213).

better education than one's self (Müller and Mayer, 1976, 62; Sørensen and Blossfeld, 1989, 91; Blossfeld et al., 1993; Esping-Andersen et al., 1994). Thus, the fact that unemployment rates are high for low-qualified workers does *not* prove that the demand for low-skilled labor is decreasing. "In periods of low aggregate demand and high unemployment it may be attractive to hire highly qualified persons to do jobs which could have been occupied by less skilled workers at the same wage" (Heylen et al., 1996, 25; cf. Harrison and Weiss, 1998b, 20). The theory of *credentialism* (Collins, 1979; Sørensen, 1994) goes beyond the pure ranking function of educational credentials. It introduces the idea of why they are used and how they are constructed in so-called meritocratic societies. It argues that educational credentials, as performance criteria, are used to construct and institutionalize exclusive skill requirements of jobs in order to limit access to jobs and thereby to monopolize occupational opportunities (Weber, 1976, 577[4]; Collins, 1979, 20, 57, 94, 138; Allhauser and Appel, 1996, 232). They are "monopoly rents" which do not measure skills, but the economic and social benefits of skills (Sørensen, 1994, 7). Credentialism strengthens the job competition model's argument that "skill requirements do not *necessarily* reflect the technical difficulty of a given job" (Abercrombie et al., 1994, 48), stating instead that these requirements are defined by the educational distribution of the labor supply and, more importantly, that they are social constructions to ensure competitive advantages for certain individuals in job competition for employment.

Applying this theoretical approach to less-educated people's employment opportunities, the following *displacement* argument is made: By characterizing educational credentials as signals of individuals' ability and using them to produce a rank order, less-educated persons are screened out for lacking educational certification. They are taken as signal that these persons have put less effort into education, indicating that they are less tenacious and less committed to work than people who have been successful in educational institutions (Thurow, 1975, 174; 1979, 135). Therefore, given an oversupply of trained persons, the credential-holders use their competitive advantage and displace untrained persons.

What are the *shortcomings* of applying these multiple theoretical strands constituting the displacement hypothesis?

a)   *Changes in educational groups' ability levels* are not taken into account. The displacement hypothesis treats educational groups as if they define the same ability level over time, regardless of compositional changes. The educational system is conceptualized as an unchanged "black box" with a stable production function (Büchtemann, 1998, 19). In doing so, the displacement argument implicitly assumes that the educational credentials produced in the 1960s and 1970s are equivalent in terms of acquired competences to the same credentials produced in the 1980s and 1990s. But, the rank order of the per-

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[4]   "Wenn wir auf allen Gebieten das Verlangen nach der Einführung von geregelten Bildungsgängen und Fachprüfungen laut werden hören, so ist selbstverständlich nicht ein plötzlich erwachender ‚Bildungsdrang', sondern das Streben nach Beschränkung des Angebots für die Stellung und deren Monopolisierung zugunsten der Besitzer von Bildungspatenten der Grund" (Weber, 1976, 577).

sons' queue is a relative, not an absolute, ordering of ability. Therefore, declines in the less-educated group's size might have gone hand in hand with declines in the average *relative* ability level of the lowest educational group, because this group always constitutes the lowest rank positions. The key underlying concept of displacement – the ranking of persons according to *relative* ability and thereby the relativity of skills and qualifications in labor markets – is violated by its implicit assumption of *stable absolute* ability levels of educational groups over time.

b) The displacement hypothesis holds the labeling and sorting functions of educational credentials constant. It employs the idea of signaling that employers' perceptions are crucial for hiring decisions, but *changes in these perceptions due to changes in educational norms* are not considered. Yet the signal "uncertified" is certainly perceived much differently in a time period when this group constitutes a majority and sets the standard than in a period when those persons constitute only a minority: a "deviation" from *the* norm. Thus, no matter whether untrained persons have the ability to exercise certain occupations, belonging to the minority can disqualify them from being hired. The displacement hypothesis thus misses the possibility of emerging stigmatization as group size decreases and its impact on the stigmatized group's employment opportunities.

c) It overlooks *changes in the social composition of educational groups.* It states that the comparative advantage of educational credentials has changed over time. In doing so, solely a quantitative supply-side argument is made: larger supply lowers the exclusivity of educational certificates. But, it does not take into account the social definition of ability, the replacement of personal background characteristics with certificates, and thereby neglects the social sorting function of the educational system emphasized by the theory of credentialism. As the displacement hypothesis presupposes a random outflow of individuals in terms of ability, it also assumes a random outflow in terms of social characteristics. It overlooks the question of "who is still untrained" when answering why these persons are "displaced." But the answer to this question is absolutely essential in understanding which tracking mechanisms in society systematically block certain groups' access to higher education. As will be shown in the next section, it is precisely this "selection process" that offers a crucial explanation of "why trained persons increasingly outperform untrained persons".

In sum, these shortcomings are not a problem of the theories used, but of the application of the displacement hypothesis. Thus, by applying the same theoretical background in a different way, one can also derive an alternate hypothesis: that of selection, which modifies the nature of "displacement" by taking changes in group compositions and perceptions into account.

3   The selection hypothesis as an alternative explanation

According to the selection hypothesis, the group of less-educated persons has fewer employment opportunities today than before educational expansion because – at least partly – during educational expansion a creaming-out process in terms of relative ability and social characteristics has significantly changed the group's composition. As with the displacement explanation, the selection hypothesis states that the employment opportunities of the less educated in particular are crucially affected by the presence of a large pool of unemployed (educated) labor (cf. Morris and Scott, 1996, 48; Mallet, 1998, 13). Given such loose labor market conditions, the lower positions in the applicants' queue and the oversupply of trained persons reduce less-educated individuals' employment chances even for unskilled jobs, which will instead be filled by trained persons. However, this higher vulnerability is not only seen as a consequence of changes in labor demand, but also of changes in the group compositions in terms of their average relative ability level as well as their social composition, and by alterations in group sizes. The derivation of this selection hypothesis function follows.

The selection hypothesis has two *key preconditions*: (1) Comparing generations, educational expansion has mainly lead to an *outflow* of persons of the lower educational group into higher educational groups, and not to downward mobility of persons with formerly higher education into the lower educational group (cf. Büchtemann, 1998, 20). (2) The rank order of the persons' queue is always a continuum with no empty places between the lowest and the highest positions.

Based on these preconditions and applying the same theoretical background as before, the *first argument* is: the outflow from the lower educational group is *not* a random sample in terms of relative ability. Less-educated persons with higher relative ability have had higher chances of entering into higher educational groups than persons with lower relative ability. Because this outflow has not been counteracted by an inflow of persons holding higher rank positions before educational expansion into the group of the less-educated, the remaining individuals in that group are a negative selection in terms of relative ability. Of course, that does not mean that the members of the younger and the older generations are equal in terms of their absolute knowledge and ability. The lowest as well as the highest educational groups may have experienced an absolute increase over time. But, applying the concept of job competition, employment opportunities are defined by relative and not by absolute ability. Therefore, in comparing the less-educated group before and after educational expansion, the present group has lower average ability *compared* to the rest of the population than the group had in earlier times.[5]

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[5]   More generally, "changes in the talent distribution and ensuing increasing heterogeneity on the input side [of higher education] must have had noticeable effects on the quality of the output of education systems" (Büchtemann, 1998, 19).

Second argument: Taking into account that ability is not only determined biologically but also significantly by social environment (Gould, 1995; Lippmann, 1996; Sulloway, 1997; Leibetseder, 1998; Lemann, 1999)[6], this outflow is not a random group in terms of social background characteristics. Given that school tracking is based on ability shown in classrooms and given the positive association between ability and an individual's social resources, children from more advantageous families had better chances of moving out of lower school tracks during educational expansion than children from less-advantaged families. As a result of expansion, the less-educated group is simultaneously a "negative selection" in terms of its relative ability *and* in its social composition!

Third argument: Because of declining group size and the divergence from standard educational norms caused thereby, persons who hold the lowest queue positions in terms of ability are more accurately definable. Social closure – as one of the driving forces defining educational credentials in modern societies (according to theory of credentialism) – and exclusion of lower social groups can be accomplished more "successfully." Their definition as "being incapable" seems legitimated by their "deviant educational behavior" and their "individual failure to succeed."

What would the consequences of such a "creaming-out process" be in a *situation of job shortage*? More highly educated persons have better chances to enter into jobs or may occupy unskilled jobs. However, this does not mean that they necessarily *displace* less-educated individuals. Due to job competition, job matching is not a fixed association between job and absolute ability level of jobholders, but between job and *relative* level. Holding higher educational degrees in younger cohorts than those held in earlier cohorts does *not* mean that the relative position in the persons' and jobs' queue must have changed. In contrast, regardless of the certificate held, today the majority most probably holds the *same* position in the persons' queue as they would have in earlier cohorts – because otherwise downward moves in the educational hierarchy would have been necessary (contradiction to first precondition of selection hypothesis).

So, what does "displacement", defined as qualified persons occupying unskilled jobs, actually mean? Correctly, that the monopoly rents of educational credentials would differ over time: more education is needed to confer the same competitive advantage, i.e. to hold the same rank position. But, given that it is correct that the productivity function of credentials has changed (see first argument), according to their relative ability position, most "upwardly mobile" persons may occupy the same rank position in terms of ability as they would have in earlier cohorts, yet at that time without formal certification. Thus, comparing generations, more highly qualified persons neither displace less-educated persons from their ranking position in the queue of persons nor from that in the job queue. In fact, in a historical perspective, higher-qualified persons displace *themselves* (cf. Büchtemann, 1998, 20).

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[6] Even Herrnstein and Murray (1996) acknowledge the social co-determination of intelligence – although they have "forgotten" it when interpreting their results.

Additionally, social characteristics that are negatively defined in society have become more easily observable using a single indicator, namely "uncertified." Therefore, the perception of this group has changed: it has gone from a majority to a "deviant" group. Employers' recruitment strategies might have changed. The indicator of belonging to the lowest educational group defines more precisely that group of persons who have characteristics that are attributed to lower performance and trainability in the younger cohorts than in older cohorts. As a consequence, job shortage may exacerbate less-educated persons' vulnerability. Today, they have fewer chances to demonstrate their actual abilities because they have fewer chances for attaining on-the-job screening opportunities (in skilled and unskilled jobs) than the less educated had in older generations (cf. Thurow, 1999, 137, 142).

- Chart 1 here –

Chart 1 shows the different pictures we have in mind when we speak of displacement and selection. Whereas the displacement picture suggests a "downward move" of higher qualified persons into low-skill jobs, the selection picture suggests a lateral movement according to the relative ability level defining a person's rank position. In doing so, the displacement explanation assumes that upgrading in the distribution of certificates has been accompanied by an absolute upgrading of the job applicants' queue, whereas the selection explanation differentiates between the allocation of persons into educational categories and into ranked positions in the job applicants' queue.

What are the *empirical expectations* to find support for this selection hypothesis?

(1)   Belonging to the lowest educational group has a higher impact on employment opportunities in younger birth cohorts than in older ones – because the signal "uncertified" has become a stronger indicator of social group membership. Whereas in birth cohorts passing through the educational system before its expansion, labor market success was not only affected by educational certificates, but also by other individual characteristics, in the cohorts that attended school after the expansion, the indicator "uncertified" has become perhaps a key predictor of labor market success. Here, the selection and displacement hypotheses do not differ in *empirical* terms.

(2)   But, the selection hypothesis would be supported if the less-educated group's social composition has changed during the course of educational expansion: the younger the cohort, the higher the risk of persons with less-advantaged social background characteristics to be "uncertified" than that of persons with more advantageous characteristics.

While this last expectation is not motivated by the displacement hypothesis, it does not contradict it neither. However, this often overlooked selection reveals *two essential differences* between the selection and the displacement hypotheses. First, the selection hypothesis persistently applies the idea of educational certificates as measurements of relative ability used to order persons in an applicants' queue, while the displacement hypothesis partly violates it

by assuming stability (if not ultra-stability) in the value of credentials. Second, the selection hypothesis also includes the "production process" of the less-educated group – in the educational system – and its changes in explaining less-educated persons' employment opportunities. The advantage is that it sets the locus of disadvantage to earlier points in the life course: at the beginning of and during an individual's education, and not after schooling has been completed.

4   Data, variables, and analytical design

Data

The purpose of the next two sections is to provide empirical support for the selection explanation. The data set used is the West German Life History Study conducted at the Max Planck Institute for Human Development (Berlin). In retrospective, standardized interviews, the respondents reported, among other things, their school, training and employment histories as well as parental information. The survey covers men and women belonging to six birth cohorts (1919-21, 1929-31, 1939-41, 1949-51, 1954-56, 1959-61). Secondly, the analysis uses data for the cohorts 1964 and 1971 from the cooperative survey, conducted at the Max Planck Institute for Human Development and the Institute for Employment Research (Nuremberg), with the latter supported by the European Union Social Fund.[7] The cohorts 1964 and 1971 also include persons of foreign origin. The analyses presented here are limited to native-born West Germans. The association between the educational selection process and "ethnicity" is not considered here, but is on the agenda for future research.[8]

Since these cohorts[9] attended the educational system at different stages of the educational expansion – before, during and after – they are used as indicators of changes in the educational system and their consequences for the composition of the less-educated group. They also indicate changes in the opportunity structure defined by labor market conditions. Five distinct periods of Western German labor market development are (cf. Allmendinger, 1989, 40):

- The period of the immediate post-war years: Due to the destroyed industrial structure, many persons had difficulties finding training positions and employment.
- End of the 1940s until the mid-1960s: Unemployment steadily decreased, with full employment reached around 1958 due to an economic growth rate of 8.5 percent (Gregory and Stuart, 1989, 285) – Germany's so-called "economic miracle" (*Wirtschaftswunder*).
- 1966/67 until 1972/73: Starting with the 1966/67 recession the average economic growth rate declined, but unemployment was not yet alarming.
- From the mid-1970s until unification (the late 1980s): Since the oil crisis, Germany's unemployment rate has risen (as in other Western countries). The German labor market has become increasingly loose.
- After the social and economic challenge of unification: Along with increasing globalization and world competition, Eastern Germany's dramatic de-industrialization and extraordinary monetary transfers from Western to Eastern Germany are economic burdens. The West German labor market benefited from expanding to the East German consumption market for a very short period. In the years 1990–92, the West German unemployment rate in general and of young persons (20 to 24 years old) declined (total: about 7%, youth: about 6%). Since 1992, West Germany's recession has continued, with unemployment has increasing anew (Western Germany: to about 10%; Eastern Germany to about 20%) (Datenreport, 1999, 103-5).

Taking these labor market periods into account, the eight cohorts indicate the following opportunity structures. The *1920 and 1930 cohorts* transitioned from school and vocational edu-

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[7]   As the editing process of these data continues, these results are of a preliminary nature.
[8]   Furthermore, although East German cohort data are also available, the association between the presented selection hypothesis and "political system" will also be the subject of later investigations.

cation to work before educational expansion, i.e. until around 1950. But while the War interrupted the 1920 cohort's transition, the 1930 cohort left school at the end of the War. In the immediate post-war period, both the 1920 and 1930 cohorts tried to enter into vocational education and into a labor market characterized by low supply of trained persons as well as an increasing demand for unskilled labor in agriculture and construction. In general, it was difficult for them to find training positions. But their more urgent problem was to earn a living (Blossfeld, 1990, 169). The *1940 and 1950 cohorts* experienced their transition from school to work at a time when educational participation had started to increase remarkably. At the same time, the demand for skilled labor and the number of training positions increased substantially due to the revival of German industry. The transition from an agricultural to an industrial society had led to a dramatic decrease of demand for new labor in agriculture. The *1955 cohort* also passed through the educational system in its reform period, but due to declining demand for labor following the oil crisis in 1972/73, the transition from vocational education to work took place under loose labor market conditions. The *1960 and 1964 cohorts* attended school at a time when the educational standard had already increased to having an intermediate school degree and a vocational degree. However, they had to enter into first employment (around the first half of the 1980s) under loose labor market conditions. The youngest cohort considered (the *1971-cohort*) entered the labor market around the time of German unification. They might have been able to participate in the unification boom and in a short window of better job opportunities. But the less-educated persons of this birth cohort were nevertheless confronted with an oversupply of trained persons in their own cohort and also from preceding cohorts. In sum, over time each cohort has faced an increased supply of trained persons and, at the same time, employment opportunities in general but especially for less-educated persons have worsened.

- **Figure 1 here** –

The 1920 and 1930 cohorts show a peculiarity. A comparison between the percentage of Germans attending the lowest secondary school type "Hauptschule" depicts that the respondents of the German Life History Study – as survivors of the Second World War – are certainly a "positive" selection of the population in these cohorts (see Figure 1). That is true to much a larger extent for the 1920 cohort than for the 1930 cohort. Although there are no official data available for this time period, the percentages of persons attending the lowest secondary school type in these two cohorts should have been at least as large as in the cohort 1940, if not larger. One general explanation for this selection is that persons of lower social background faced a higher risk of dying in the War because of less security and fewer food resources. Even more importantly, the discrepancy between the official and the survey per-

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[9]   In the following labeled: 1920, 1930, 1940, 1950, 1955, 1960, 1964, and 1971. They are a representative sample of the native-born West Germans (Blossfeld, 1987).

centage for the 1920 cohort is caused by the different risks of death experienced by soldiers versus officers, whose positions were in part stratified by social background.[10] Therefore, the results presented do not display the original composition of the less-educated group in these two cohorts. Nevertheless, when discussing the employment opportunities of less-educated persons, even in these cohorts the respondents of the survey used *do* represent those persons who were searching for training and jobs *after* the War.

Because of its sophisticated and standardized schooling and vocational training systems, Germany may be a special case. The advantage of using Germany is that the definition of the group of less-educated persons is – in technical terms – easier than in less standardized settings. But, this also causes a disadvantage. Standardization may contribute to higher visibility and stigmatization of this group in Germany than elsewhere. However, at least in answering the question of whether there was selection over the course of educational expansion or not, the German findings should be generalizable, even if the consequences of such a selection might be more severe in Germany than in other societies (cf. Allmendinger, 1989).

Finally, investigations of the less-educated group might be faced with data problems, regardless of the country analyzed. The *first* problem is that representative population surveys are selective with regard to who participates in them. It is well known from non-response studies (e.g., for Germany see Riede and Emmerling, 1994) that unemployed as well as less-educated persons are always *under*represented in such surveys. Hence, empirical findings based on population surveys may overestimate the occupational success of less-educated persons because the "successful" among them may have a higher response rate. This (potential) risk does not cause trouble when the findings based on the "successful" verify the selection thesis. In this case, one could argue that if they are already blocked out of the educational system and labor market then that should also hold true for the "unsuccessful" (non-participating) less-educated persons. The *second* problem is that most surveys are representative samples of the whole population, therefore the number of less-educated persons is – especially for cohorts after educational expansion – rather small. Assuming 10 percent less-educated persons in a society, one would need 5000 respondents to garner 500 less-education persons, not considering the participation problem. Therefore, the regression analyses presented in the paper will include as few independent variables as possible in order to keep from overestimating the data.

Analytical design

No direct measurement of ability exists that could be used to operationalize the relative ability queue (which would be necessary to directly test the first argument). First of all, it is impossible to measure ability independent of social background (cf. Thurow, 1975; Collins, 1979), because the latter always has an impact on the development of personal ability.[11] Sec-

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[10]   Cf. Stumpf (1982, 242, Table 38).
[11]   For literature discussing this impact of social environment on ability and intelligence see Section 3.

ond, although one might ignore this fact and just consider the ability level reached, one would need an ability measure that is independent of vocational certificate, because vocational certificates will be used to define the less-educated group. Moreover, by using an ability measure that is in any way connected with vocational education and comparing it over time, a stable ability function of the vocational certificates – as implicitly assumed by the displacement hypothesis – would be pre-defined.[12] Finally, stigmatization is not directly observable because, as formulated in the third argument, it always interacts with structural conditions.

Therefore, I will use an indirect test for the selection hypothesis. First, I analyze whether the impact of "membership" in the least educated group on employment opportunities has increased over the cohorts (cf. the first expectation). In a second step, I investigate whether the social composition of the less-educated group has changed and has become ever more "negatively" selective compared to the other educational groups over the cohorts (cf. the second expectation). Given that the results of the two steps are in line with the expectations formulated above and given the high association between ability level and social characteristics of persons, together they would support an increasing selection in terms of relative ability levels. Although the stigmatization argument of the selection hypothesis is not directly testable, an increasing stigmatization may well have contributed to all the results found.

Most of the analyses presented use all cohorts. The analysis of the impact of the signal "uncertified" on employment opportunities only uses the cohorts born around 1930, 1940, 1950 and 1960, due to the fact that for the cohorts 1964 and 1971, the editing and coding process of the data – which is particularly crucial for reliable work history data – has not yet been completed. In order to get a balanced picture, and to keep from over-representing the older cohorts in the discussion, these four cohorts have been chosen to indicate the situation before, during, and after educational expansion.

Variables

The crucial variable of the analyses is: who is defined as a *less-educated person.* In this paper, less-educated persons are defined as those who, *at age 25,* have not completed occupational training program (apprenticeship, vocational school, university, technical college) and who are not in training or other educational institution at that age.[13] Thus, the key criterion is vocational education and not general school degree. Although employment opportunities may

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[12]   Gallie et al. (1998) measure historical skill change using employees' level of educational qualification, frequency and duration of training as well as people's own perception of skill increase over recent years. But, even their "evidence of upskilling" may reflect artifactual increases due to intensified job competition. The self-reported upskilling is difficult to disentangle from the phenomenon of increased work effort and pressure, because those respondents who reported an increase in skill requirements also more frequently reported the latter. Kalleberg et al. (1981, 666) use the Specific Vocational Preparation scores (the amount of training acquired in vocational schools or on the job) and occupational licensing (percentage of people in each occupation who have a license) as measures of skill level of the individual's occupation. Neither is this independent of supply of trained persons, as discussed before.

[13]   In the following, they are synonymously labeled as "untrained."

differ by formal school degree held (e.g., in particular, holding the highest school degree may compensate for a missing vocational degree), even those less-educated persons holding a higher school degree should be stigmatized and not negate the results.[14] Even more important, they are part of the "creaming-out story," which argues that it is due to their outflow into higher educated groups that the average relative ability level has decreased and the social composition of the less-educated group has changed over the cohorts.

The definition of the less-educated group *at age 25* is driven by the idea of identifying those less-educated persons who will most probably remain without a completed vocational degree for their entire working life (cf. Dahrendorf, 1956). The idea is to define a group that is in a *persistent* situation of less education, and not only in a transitory and temporary stage of less education. Hence, for Germany, the educational groups should be classified when the transition from school to vocational training and the training process itself (except university) is usually finished. In this respect, the age "25 years old" seems to be an appropriate time point for definition. Firstly, due to educational expansion the age norm to enter into vocational education immediately after leaving general school has become stronger over time. Secondly, as Table 1 depicts, all cohorts manifest comparatively small changes in the percentage of persons without a vocational degree after age 25.[15]

The other central variable is *occupational success*, which is used to investigate the impact of changes in group composition on employment opportunities. In this paper, the *boundary between low-skill jobs and qualified jobs* is taken as an indicator of employment opportunities.[16] It reveals whether less-educated persons have less access to qualified positions than more highly educated persons and whether this boundary has gotten stronger over the cohorts as the less-educated group's size has decreased and, as hypothesized, become more selective. In this paper, occupational placement in a first job (with a duration of at least six months) is considered. The first job is known to be crucial for the following occupational career (e.g., Blossfeld, 1989; Shavit and Blossfeld, 1993; Kalleberg, 1996; Kontietzka, 1999). However, future research is required to invent a more sophisticated set of indicators of good and poor employment conditions at different points in time. The risk of unemployment alone is not appropriate because in the times of full employment low-skill and/or low-wage jobs may define poor employment opportunities, whereas in times of high unemployment even having a low-skill job at all may be a good employment opportunity. But such a comparison would be too simplistic. Given that chances of upward mobility have also decreased over time (which are investigated here), occupying a low-skill job may also indicate comparably poor employment opportunities today.

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[14]   Persons with intermediate or highest school degree constitute about 20 percent of the less-educated group in the data set used (all cohorts). Among those less educated who had a first job until the time of interview, 4 percent hold the highest school degree and 9 percent an intermediate degree (only 1930, 1940, 1950, 1960 cohorts).

[15]   The only exception are the men of the 1920 cohort. Here, the share of persons without vocational certificate (and not currently in training) decreased by about 9 percent between age 25 and 30. For an explanation, see footnote 27.

[16]   Qualified jobs are all jobs above unskilled manual and low-skill non-manual positions (i.e., skilled manual jobs, but also medium and higher level non-manual jobs).

The following are included as *independent variables* for social background:

Label	Definition
Vocational education of (step)mother*	1 = without a completed vocational degree 2 = holding a vocational degree (apprenticeship, full-time vocational school, technical college, university)
Vocational education of (step)father*	See (step)mother
Occupational position of the head of the household when respondent was 15/16 years old	1 = employed in low-skill manual/non-manual job 2 = employed in qualified jobs (skilled manual worker and any position above) 3 = non-employed → in principle, it is the occupational position of the *(step)father* → when (step)father was dead: the occupational position of (step)mother → when (step)father was not employed, but (step)mother was employed: occupational position of (step)mother
Family size	0 = less than 4 children in the family 1 = four or more children in the family ("large family")
Stressful family situation**	0 = none or one of the following indicators is given 1 = two or more of the following indicators are given *Indicator for stressful family situation**** a) Having a stepmother until age 16 b) Having a stepfather until age 16 c) Death of the mother until age 16 d) Death of the father until age 16 e) Having a "young" mother (mother was at the most 21 years old at birth of first child) f) Having a "young" father (father was at the most 21 years old at birth of first child)

* Parents' school degree and vocational degree are highly correlated. In the regression models, parents' vocational certificate has proved to be more discriminating than their school degree.

** The operationalization as an index (instead of considering the individual indicators themselves) is due to a small sample size, especially of less-educated group in the younger cohorts, in order to avoid overestimating the data.

*** Divorce of parents is not included in "stressful family situation," because it is not available for the cohorts 1955 and 1960. However, it is partially covered by the higher "risk" of having stepparents.

Most of these independent variables are defined as dummy variables contrasting the persons in the most negative situation with persons in more advantageous situations. According to the selection explanation's focus, the aim is to show the widening distance between less-educated persons and the formally better qualified "rest" of the population. Moreover, it is necessary to appropriately handle the relatively small sample size.

5   Empirical findings

The first empirical figures inform about the educational upgrading in Germany (Table 1, Figure 2a and 2b). Table 1 shows that the size of the less-educated group has decreased rapidly from the 1920 to the 1971 cohort: from 47 percent to 7 percent.[17] Taking the "positively selected" survivors of the 1920 and 1930 cohorts into account, *without* the War this decline would have been even more dramatic than that displayed by the retrospective data. But even this data shows that the less educated have become the "deviating minority".[18]

- **Table 1 here** -

There are remarkable *gender differences* in this upgrading process that deserve special consideration. Although educational expansion has led to the disappearance of gender differences in terms of the group size of untrained persons – in the three younger cohorts, the percentage of untrained persons among women and men was almost equal at age 25 – the nature of upgrading was quite different for men and women.

- **Figures 2a and 2b here** -

For the *men*, the share has decreased from 30 to 6 percent (Figure 2a). Here, the upgrading process was primarily a result of higher rates of training participation *after* the age of 20. The cohort differences of the percentage of untrained *at age 20* were rather small. But the decline of the share of untrained between *age 20 and 25* differed considerably between the cohorts,[19] due to ever later entrance into training over time. This delay is caused by longer durations of secondary schooling in general and by the increasing percentages of trainees and college and university students who attended higher secondary school types in particular (Konietzka, 1999). In addition, the duration of training itself has increased among the cohorts.

The picture for the *women* is completely different. Here, the percentage of the less educated has declined from 70 to 8 percent. Already at age 20, there are huge cohort differences. Moreover, in the older cohorts, the share of untrained women did not change even through age 30.[20] In the younger cohorts, the percentage declined remarkably between age 20 and 25: by more than 10 percent. As for men, the latter is due to later entrances into and longer durations of vocational education.

The *comparison* of the developments for men and women reveals that, first of all, the postwar conditions affecting entrance into vocational education was "mainly a misery of

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[17]   A time series of the percentage of "untrained" persons is not available in official statistics. Two surveys by Emnid (Bundesministerium für Bildung und Forschung, 1991; 1999) report that 12 percent of the native-born West Germans of the age group "20 – 24 years old" in 1987 and 8.1 percent of the age group "20 – 29 years old" in 1998 were without completed vocational training.

[18]   The higher percentage of those who are still in training at age 27 over the cohorts is due to an increasing share of university attendance.

[19]   The slightly higher or, given normal sampling errors, almost equal percentage of untrained persons in the 1920 and 1930 cohorts, especially after age 26 (i.e., after the War for the 1920 cohort), might be caused by "positive" survival in the 1920 cohort, which contributed to a higher share of the persons with higher educational aspirations (cf. Figure 1).

[20]   The (counterintuitive) finding of a higher percentage of untrained women in the 1930 in comparison with the 1920 cohort may have two explanations. First, as for men, "positive" survival in the 1920 cohort has to be taken into account. Second, during the War, there was a shortage of young men. Therefore, the women of the 1920 cohort had advantageous – compared to the 1930 cohort – training opportunities because they could not be filled by men.

women" (Blossfeld, 1990, 172). And secondly, besides these cohorts' peculiarities, the overall cohort comparison shows that educational expansion with respect to vocational education was the result of the abolished exclusion of women from vocational education[21] and the increasing participation rate of graduates from higher levels of general education.

Table 2 reports the occupational field in which untrained and trained persons were employed in their first jobs.[22] For untrained persons, there was a shift from jobs in agriculture, mining, as well as chemical, textile, wood, leather and food production to more clerical jobs, work in construction and transportation and other kinds of unskilled jobs (as indicated by ISCO-group 9, e.g., assembler, machine-operator, loaders, wrappers, drivers and other kinds of unskilled laborers). Only the occupational field of service worker jobs (such as e.g., waitress/waiters, cleaning jobs, launderers, watch-personnel) remained one of the main work domains of untrained persons in all cohorts.

- **Table 2 here** -

Persons holding a vocational certificate[23] used to work mainly in manual occupations. By the 1960 –cohort, they increasingly entered also into clerical and sales occupations and also into semi-professional occupations (semi-professional technicians).

These changes in occupational field of first job were also accompanied by a decreasing percentage of persons who were employed in low-skill jobs – from about half of those employees to less than one third (see Table 3). This decrease is especially evident for women. Table 3 shows that, in particular, declines in agricultural employment have resulted in the decreasing share of *unskilled manual* jobs over the cohorts.[24]

- **Table 3 here** -

In light of employment opportunities, this table depicts considerable change in untrained persons' opportunity structure over the cohorts – even leaving aside their increasing rate of unemployment. If one transfers the decreasing percentage of low-skill employment into a lower societal standing of these jobs, then a higher risk of having to enter into such low-skill positions can be interpreted as poorer employment opportunities in the younger than in the older cohorts.

In order to test whether the untrained persons faced an increasing risk of being employed in low-skill jobs – or of having lower chances to be employed in socially higher valued posi-

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[21]   That, of course, does not mean that men and women enter into the same vocational education tracks and occupations. In contrast, analyses have shown that in this respect, there still exist significant gender differences even in the younger cohorts (cf. Solga and Konietzka, 1999, 2000).

[22]   As seen in the bottom rows of Table 2, there are only very few respondents who had not entered into the first job by the time of interview. In the 1930, 1940 and 1950 cohorts, these persons were mainly women, while in the 1960 cohort they were persons who still attended university at time of interview. The high percentage of persons having a first job does not mean that they all entered the labor market at the same time. There is an age range of more than 5 years due to different participation in general and vocational education and the different durations of the various tracks.

[23]   Trained persons holding the highest secondary school degree "Abitur" are not considered (that is the only analysis done in this way). The reason for excluding them is to increase comparability as much as possible regarding the age at first job.

[24]   The increase of employment in unskilled manual jobs in the 1960 cohort is caused by the increase in the relative share of employment as construction and transport workers (cf. Table 2).

tions – logistic regressions were estimated. Table 4 presents the results (odds ratios) of a stepwise estimation procedure.

- **Table 4 here** -

The cohort estimates of model 2 show that the younger cohorts had a lower risk of being employed in low-skill jobs than the 1930 cohort (so far it only replicates the percentages of Table 3). By including the variable *respondent's vocational education* (the indicator of "belonging to the less-educated group"), the cohort effect for the 1940 cohort and the effect of mother's vocational education become insignificant, and the gender effect has lessened (see model 3). The effects of the 1950 and 1960 cohorts have decreased. Finally, by including the *interaction effect* of respondent's vocational education and cohort membership (see model 4), the main effect of respondent's vocational education declines, while the interaction effect only of the 1960 cohort is significant. This indicates a higher risk for the untrained in this cohort.

These findings reveal that (1) vocational training degree played a more important role in the youngest cohort than in the older cohorts (cf. first empirical expectation). (2) The reduction of the gender effect by including vocational education indicates that women's higher risk of being employed in low-skill jobs was partly caused by a lower female participation rate in vocational training programs in the older cohorts.

Applying the *displacement hypothesis*, one could argue that the increasing supply of trained persons in the younger cohort has reduced the chances of untrained persons to enter into qualified jobs. Trained persons have increasingly "displaced" untrained persons from qualified jobs. Applying the *selection hypothesis*, the explanation would go quite differently: Here, the positive "escape" of persons with relatively higher ability levels out of the untrained group would explain the reduced chances of entering into qualified jobs of those who remained untrained. Given the "escapees" are a "positive" selection of the formerly untrained group, these escapees might have always had better chances, but the label attached to them changed from "uncertified" to "certified."[25]

As discussed in Section 4, there is no direct way to test these two explanations. In order to get some idea as to whether the selection explanation applies at all, the next analyses investigate changes in secondary school performance (as an ability measure) and historical changes in social background characteristics of the untrained group.

- **Table 5 here** -

The odds ratios presented in Table 5[26] reveal that over the cohorts, for *men* the risk of being untrained at age 25 has increased for individuals *not* holding a formal school degree.[27] For

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[25] In order to simplify, the possibility of increasing stigmatization with decreasing group size is not taken into account.

[26] Because of the low number of untrained persons, especially in the younger cohorts, the cohorts have been pooled.

[27] In the 1920 cohort, the counterintuitive lower risk of persons holding only a lower school degree compared to those holding a higher school degree might be caused by two factors: (1) the positive selection of war survivors especially in the group of lower school degree holders, and (2) due to delayed entrance into university after age 25 of those persons holding the highest secondary school degree. They were about 25 years old at the end of the

women, the higher risk of remaining untrained (only holding a lower or no educational degree at all) has remained very high. Controlling for school degree completed, the decrease of the *net effect of gender* over the cohorts shows that gender differences in participation in vocational education – given men and women reached the same level of secondary schooling – decreased but did not disappear. Thus, even in the youngest cohort, women had to attain higher school degrees in order to have the same chances of participating in vocational education. Therefore, only the higher female rate of completing an intermediate or highest secondary school degree in the younger cohorts (see Table 6a: gender effect) explains the absence of gender differences in the share of untrained men and women (cf. Figure 2a and 2b).

With respect to the selection hypothesis, these results show that for men the less-educated group has become more negatively selective in terms of relative ability level as expressed in formal school degrees. For women, the less-educated group is also negatively selected, but – insofar as it is expressed in formal school degrees – this selectivity has not increased over the cohorts. However, this analysis, similar to that of vocational certificates implicitly assumes a stable productivity function of school certificates regardless of changes in the distribution of education. Therefore, given the positive correlation between school achievement and social background[28], changes in the social composition of low-school achievers might better indicate a decrease in the average *relative* ability of the less-educated group.

The cohort comparison of the risk of being a low-school achiever – presented in Tables 6a-c – shows that the group of low-school achievers has indeed become socially more "negatively" selected (cf. second expectation of the selection hypothesis).

<div align="center">- Table 6 a here -</div>

Table 6a displays, first, that in the older cohorts, the less-educated group was selective in terms of father's vocational education, while in the younger cohorts occupational position of the head of the household (who is the father in most cases) was more important. Taking the educational distribution of the parents' generation of the older cohorts and distribution of the occupational status positions in the younger cohorts into consideration, in the older cohorts the share of fathers not holding a vocational degree was rather large, whereas in the younger cohorts the share of fathers who were employed in low-skill jobs was rather small. Moreover, these fathers were not only employed as unskilled workers, but were also the "selective" sub-sample of the untrained fathers. A stepwise estimation procedure has shown that the effect of father's vocational education became insignificant after including the household head's occupational position. In the younger cohorts, the less-educated group exhibits an overrepresentation of non-employed household heads: meaning unemployed, barring very few exceptions. In addition to large family size, "stressful family situations"

War. The large decrease in men without a vocational certificate between age 25 and 30 years old (of about 7 percent, see Figure 2a) indicates that a considerable number of persons with higher school degrees had started apprenticeships or university education after the age of 25. Thus, they are not counted as "still in training at age 25" – as it is often the case in the younger cohorts – but as untrained persons. For the women of the 1920 cohort, this delay was less important since the majority did not enter into training at all.

also caused a higher risk of low school achievement among member of the younger cohorts. In the younger cohorts, the less educated increasingly consisted of persons who had experienced difficult life events during childhood or adolescence and/or grew up in a "stressful family situation" due to having a very young mother or father.[29]

- **Table 6 b here** -

Separate analyses for men (Table 6b) show only minor deviations, which do not jeopardize the general finding of increased social selectivity over the cohorts. For men, the selection by "family size" (indicating a sub-sample of the socially less-advantaged parents[30]) is only given in the younger cohorts.

- **Table 6 c here** -

For women, the results of the separate analyses show that in all cohorts the less-educated group was a socially selective group, but that this selection has not become more pronounced over the cohorts. That may be caused by the peculiarities of the upgrading process of women. As Figure 2b has shown, the decrease of untrained women was quite remarkable over the cohorts. Thus, alongside social characteristics, even more important was that their "gender" excluded them from vocational education. Therefore, women from all social backgrounds have gained higher chances to participate in higher education, in general, and in vocational education, in particular. But for women as well as men, the correlation between father's vocational education and occupational positions of the head of the household has increased over time. This may also indicate an increased social selectivity of the group of less-educated women.

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[28] References have been presented in Section 3 (cf. second argument of the selection hypothesis).
[29] Cf. Wilson's (1987) discussion of the causes of and problems connected with teenage-childbearing in the U.S.
[30] Especially in the younger cohorts, when the average family size of the population is lower than in older cohorts, there is a high correlation between lower social standing and large family (cf. Solga and Wagner, 2000).

6   Discussion and conclusions

The paper aimed to strengthen a less common explanation of the increasing vulnerability of less-educated persons in a society that considers itself "meritocratic". Instead of displacement of the less-educated by the more highly-educated, it is argued that the increasing negative selection of this group is the essential cause of their poorer employment opportunities today. The argument is that these "selected" persons have always had the poorest employment opportunities, but that these disadvantages or reduced opportunities have become more visible. What is new after the remarkable educational expansion after the Second World War is the increased salience of the labeling of individuals and not necessarily their rank position in the individuals' ability queue. Those who could escape from the less-educated group are no longer labeled "uncertified" but "certified", even though they most probably have not changed their relative ability position. The remaining members of the less-educated group are still labeled "uncertified", but while the name has not changed, the group's composition itself has changed dramatically. Hence, "the alteration of categorical differences in human capital through education, on-the-job training, or transformation of social environments will affect categorical inequality but will do so chiefly through their impact on the organization of opportunity [e.g., who is labeled as less educated by the society] rather than their improvement of individual capacities" (Tilly, 1998, 244).

The empirical analyses presented in this paper support this selection argument. Especially for men, these analyses show that certificates have increasingly replaced personal, ascriptive characteristics. The social selectivity of the less-educated group has increased over the cohorts, from the 1920 to 1971 cohort. In terms of social characteristics (and, thus, the resources of ability development connected with them), a "positive" outflow of formerly untrained persons into the certified group has taken place. Whereas in the older cohorts employers had to observe several personal characteristics instead of only the indicator "vocational certificate" in order to choose the relatively best applicants, after educational expansion they could increasingly put their trust in this single indicator "certified". Because more than ever before it simultaneously separates out those persons with less-advantaged social background characteristics and relatively disadvantaged environments in which abilities are developed.

One could argue that it does not matter whether one calls it selection or displacement: the result of increased job competition is the same. Ultimately, less-educated persons have poorer employment opportunities today than they enjoyed in the past. Moreover, the two hypotheses would agree that today, the new quality less-educated persons' vulnerability is their legitimated exclusion as economically obsolete members of society. However, whereas the first hypothesis explains this exclusion of the less educated by virtue of a newly emerged displacement phenomenon, the other hypothesis defines this labor market exclusion simply as another, but highly visible aspect of the *continuing* social disadvantages of persons with less-advantageous family background. This difference shows why the displacement argu-

ment has enjoyed so much more intellectual attention in our "meritocratic" societies than the selection argument, although the selection process – as set out in the paper – seems to be so obvious. Moreover, a selective outflow out of the group of the less educated due to educational expansion is also a necessary precondition for the validity of displacement. Without selection, its key idea of ranking individuals according to their relative ability level – which is based on the efficacy of credentials to signal individuals' personality characteristics and trainability – would be violated. Thus, why do we speak of displacement and not of selection?

The selection argument's first challenge is of theoretical nature. The focus on selection instead of displacement fosters the insight that statistical discrimination does not initially take place in the labor market, but already in the educational system and, thus, occurs earlier in an individual's life course. Therefore, the statement that the less-educated group is increasingly "negatively selected" does *not* mean that its members are untrainable. The selection approach is based on the argument that less-educated persons are disadvantaged in their educational careers early in life due to the institutional context of education and the still existing positive relationship between individuals' social background resources and educational opportunities (cf. theory of credentialism), and not because of lower innate ability.

Secondly, the selection hypothesis opens new insights for labor market policy and leads to challenges in terms of policy to combat the higher unemployment rates of less-educated persons. Like the displacement hypothesis, it supports the demand for more jobs instead of only providing individuals increased opportunities through adult education. An increase in the number of available positions could improve the employment opportunities of less-educated persons (*without any* increase in education). The establishment of new jobs – skilled *and* unskilled jobs – would improve the labor market situation of the less educated. This strategy seems to be supported by the fact that only in times of high unemployment are the less educated increasingly pushed out of the labor market (Harrison and Weiss, 1989b, 20; Giloth, 1998; Freeman and Schettkat, 2000; for Germany see Heise, 1995; Münster and Wiedemuth, 1998; Walwei, 1998; Bäcker, 2000). Thus, more skilled jobs could offer new opportunity for upward mobility of the skilled persons employed in unskilled jobs and thus empty the positions for the less educated. More low-skill jobs would not help to reduce over-education, but could offer new employment opportunities for the less educated.

In contrast to the displacement hypothesis, the selection hypothesis delivers arguments that compensatory *adult* education programs are only the second best solution, since they act only after less-educated persons have been produced by the society. Applying the displacement argument, one could conclude that adult education programs for the less educated would help to improve their individual position in the competition for jobs. Still, this strategy would not solve the societal problem of the oversupply of labor. Training would only reorder the applicants' queue (cf. Winefield et al., 1993; Allmendinger, 1989, 24). Moreover, it is also debatable whether participation in such programs would diminish the "stigma" of

having been unsuccessful in the educational system, which is attributed to them. The *selection perspective* would favor different policy measures. The least challenging suggestion, which is already employed in German labor market policy, is to improve not only adult education, but also the ways in which employers *directly* experience and observe that these less-educated individuals are productive and employable in (at least low-skill) jobs. The more challenging suggestion would be in asking for preventative policies instead of post-facto therapy. Since selection already starts in school, the selection hypothesis supports Freeman's view that "the most effective long-run policy is to target intervention early in life" (Freeman 1999: 64; cf. also Thurow 1999: 136). Thus, the implementation of means for compensating individuals' disadvantages in terms of their own social background resources as well as the abolition of institutional separation in school systems could help to mitigate social inequality in schools. In the last instance, if one really takes the selection hypothesis seriously, one would come back to Illich's (1970)30-year old suggestion: less discrimination and greater equality can only be achieved by "de-schooling" and "de-credentializing", and not by today's favored policy of "re-schooling" and "more certification" (cf. e.g., Carneiro, 1999). As long as educational certificates exist, they will be used to define and legitimize differences in labor market opportunities. And as long as they are used in this way, the more highly educated groups will use educational credentials to monopolize their competitive advantages.

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