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Intergenerational downward mobility in educational attainment and occupational careers in West Germany in the twentieth century

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Abstract:

What happens in the occupational careers of men if the intergenerational continuity in status reproduction is disrupted by the failure to reproduce the parental level of educational attainment? We frame this failure as a risk for intergenerational status maintenance and ask whether such a risk induces extra effort by way of compensation. By studying eight birth cohorts born between 1919 and 1971 characterized by largely differing conditions with regard to educational and occupational opportunities, we examine how macro-social conditions contribute to opportunities to compensate for such failure later on. In examining this question, we add a new piece to the puzzle of how social origin and education contribute to status attainment and of how the social context shapes these linkages across historical time. We estimated multilevel growth curve models to assess the effect of educational downward mobility on the development of occupational status over the career. Our empirical results show that the status of men who experience educational downward mobility increases faster over the course of their careers. Moreover, these men reach a slightly higher status as compared to their peers who had reached at least the same educational level as their fathers. The prevailing macro-societal conditions did not cause variation in the effect of educational downward mobility on men's career attainment.

Introduction

Status attainment and social mobility research has concentrated on identifying degrees of path dependencies between social origin, education, first job, and later occupational career. A remarkable continuity of strong influences between all these life stages was found. Social origin influences not only education but also status attainment, net of its influence on education. In international comparisons Germany displays especially tight linkages between education and first job (Allmendinger, 1989; Hillmert in this volume), and between first job and later jobs (e.g. Manzoni, Härkönen and Mayer 2014). In this article we endeavour to divert attention from this often researched

pattern of continuity in Germany to the fact that this pattern may be disrupted by intergenerational educational downward mobility (EDM). This is a biographical adversity insofar as it threatens the chance of at least maintaining the parental socioeconomic position, especially in the case of a strong link between educational and occupational attainment. We ask, then: What happened during their occupational career if men were unable to attain the same educational level as their parents by the time they first entered the labour market? Do we find a faster pace and a higher level of occupational attainment as a sort of “counter-mobility” (DiPrete 2002: 278) to correct for this downward move? Opportunities for such counter-mobility are seen as part of a society’s mobility regime: Societies differ in the degree to which there are risks for adverse developments such as educational or occupational downward movement and also to the degree that there are possibilities of recovery from adversity that prevent adversities from becoming permanent over the life course (*ibid*). This aspect of counter-mobility has been largely neglected in previous research, especially where the focus is not on immediate recovery but on longer-term linkages across life stages and life domains.

In the following, we concentrate on consequences of EDM on occupational careers and do not try to explain the emergence of educational downward mobility as such. An existing study on variations in EDM during the twentieth century is confined to the German secondary school system. This study shows a positive trend in upward and a negative trend in downward educational mobility over time, starting with those born in the mid-1950s as a consequence of a general upgrading in the distribution of educational certificates (Heineck and Riphahn, 2007). Nevertheless, the failure to at least reproduce the parental level of education remained a significant adversity in the German opportunity structure, which proved to be quite resistant to policy changes and the introduction of equal opportunity measures in the educational system. Up until now, no study has investigated whether the significant biographical event of educational downward mobility has consequences for the later life course.

Although, in principle, the German Life History Study (GLHS) allows one to investigate women and men, both in East and West Germany, we confine ourselves in this article to West German men (and their fathers) born in one of eight birth cohorts, ranging from 1919-1921, 1929-1931, 1939-1941, 1949-1951, 1954-1956, and 1959-1961 to those born in 1964 or 1971. From existing research we

know that occupational status, and thus intergenerational status reproduction as well, is valued more highly and more uniformly by men than by women (Sewell, Hauser, and Wolf, 1980). This applies especially if we want to cover a longer historical time period (e.g. Hakim, 2000). The assumption of there being a strong motive to catch up during the occupational career is, however, a central premise of our analyses. Therefore, addressing educational downward mobility (EDM) for women is a different task that cannot be accomplished here because it deserves a study all of its own. We omit East Germany from our analyses for similar reasons. We cannot assume that the motivation for correcting educational downward mobility under socialism and after a sudden system change is similar to what we can assume for market societies based on existing research.

In what follows, we begin with a general theoretical discussion of the relevance of intergenerational educational downward mobility for occupational mobility and discuss this within the framework of biographical and historical context. We discuss why we treat educational downward mobility as a significant biographical adversity which deserves attention for its possible impact on the later life course. We then formulate hypotheses on the effect of EDM on the development of occupational status across the career. Moreover, we assess the role of social background on how EDM shapes the careers of men. A comparison between eight West German cohorts is used to investigate the impact of varying institutional conditions, and of more or less favourable conditions, on the possibility of counter-mobility to compensate for this downward move. We then present our data and methods, and the opportunities and constraints they imply for testing our hypotheses. Multilevel growth curve analysis is applied to investigate the role of educational downward mobility in the career development of men and whether this is dependent on different cohort contexts. We conclude by discussing our results, their limitations, and their implications for future research.

EDM as Biographical Adversity and Extra Motivation for the Occupational Career

Education is a key determinant of lifelong status and material well-being. The educational success of children is strongly linked to parental resources and the motivation to invest in their children's skill

development and school-tracking decisions (e.g. Becker and Tomes, 1986). The theory of relative risk aversion in educational decision-making (Breen and Goldthorpe, 1997) argues that a dominant motivation for pursuing higher educational tracks is the avoidance of educational downward mobility. The central argument is that choice of formal education ultimately reflects the commonly shared desire to maintain social status over generations. Whereas this theory received recognition as a powerful explanation of why educational inequalities persist despite all efforts to eliminate them, we take it here as an argument for assuming that failing to reach the same level of parental education is unintended and usually happens despite very strong countervailing motives to attain at least the same level, an aversion repeatedly confirmed in empirical research (e.g. Burleigh and Meegan, 2013). This assumption is also consistent with social comparison theory (Festinger, 1954) which proposes that individuals compare themselves with salient others, with parents among the most important comparisons.¹ In this sense, failing to reproduce one's father's educational level is considered a biographical adversity and, at the same time, a risk for status reproduction.² It can be conceived as a situation similar to status inconsistencies, which we know cause psychological stress that individuals try to overcome by reducing the status inconsistencies (Hornung, 1980; Hornung and McCulloch, 1981; Becker and Zimmermann, 1995). Therefore, the avoidance of intergenerational downward mobility and the psychological consequences of EDM as a threat to reach this goal are assumed to be strong behavioural motives for extra efforts in the occupational career to compensate for this initial failure.

Such a motivation can be expected to affect occupational careers twofold: First, we assume that reaching a higher occupational attainment after the first job is more pressing and therefore happens with a faster pace of growth in the case of EDM (hypothesis 1). Secondly, due to the same motivation and due to a faster increase in status over the career, we expect these men will on average have careers on a higher level of status as well (hypothesis 2).

¹ For Germany this is documented for choice of occupations (Beinke, 2000).

² See Ferraro, Schippee, and Schafer, 2009, and Diwald (in press) for the conceptual distinction between risk and adversity.

Role of Parental Resources

The opportunities for compensating an initial disadvantage caused by EDM are likely to be dependent on available individual resources. Although the key mechanism in the intergenerational transmission of advantage in contemporary societies is seen in the influence of social origin on educational attainment, the direct influence of parental status on occupational attainment did not vanish but, in contrast, seems to have remained at least stable (Jackson, Goldthorpe, and Mills, 2005). Also for Germany, previous research has shown that social origin not only influences occupational attainment through education and the first job, it also continues during the occupational career. Manzoni, Härkönen, and Mayer (2014: 1304), for example, found that the occupational status differences between descendants from the higher service class and the lower-grade non-manual and working classes virtually doubled over the occupational career. This influence did not decline across the sequence of birth cohorts. In other words, the direct effect of parental status is still relevant for career development because it might provide financial, cultural, or social resources that can be utilized to reach higher status occupations. Moreover, a higher status background may signal to employers relevant skills and behaviours, especially those not certified by educational credentials, i.e. those which are “desirable attributes of employees that are not in themselves directly observable” (Jackson, Goldthorpe, and Mills, 2005: 26). In other words, parental status signalizes some otherwise unobserved skill potential.

In the case that people who failed to reproduce the parental level of education enter the labour market, parental resources might thus become even more important. EDM puts these employees on a career track where they on average compete with others who have a lower parental background. Following the arguments developed above, this should be a comparative advantage in the competition for higher status jobs. Therefore, as our hypothesis 3, we expect a stronger impact of parental resources on occupational attainment for men who were educationally downwardly mobile.

Macro Conditions and Variations in the Effect of EDM Across Cohorts

Research on whether early adversity in the life course in general and specifically in the domains of educational and occupational attainment can be reversed later on is inconclusive (see Mayer, 2009: 417–418 for an overview). Examples of successful reversal, like the “Children of the Chinese Cultural Revolution” (Zhou and Hou, 1999), or young adults at the time of German unification (Mayer and Schulze, 2009), indicate that adversity does not necessarily lead to lower attainment or cannot be compensated for later in the life course. On the other hand, for several countries a low initial employment position was persistently disadvantageous for a later career, with limited career progression and permanent occupational inequality (Barone and Schizzerotto, 2011). Especially for West Germany, the paramount importance of education for occupation (e.g., Allmendinger, 1989), and of the first job on later careers has been demonstrated repeatedly (Blossfeld, 1985; Manzoni, Härkönen, and Mayer, 2014). These highly structured linkages between education and occupation, and first job and later jobs, are institutional arrangements intended to provide stability to the life course (Mayer, 2005). Yet in the event of disadvantageous conditions at the beginning, or of downward mobility, these tight linkages may create barriers, or at least limits, to counter-mobility (DiPrete, 2002: 301). In the German case, these institutional characteristics should not necessarily contradict any counter-mobility but limit expectations about how far counter-mobility might reach; it is unlikely that it will move beyond the rather strict range confined by one’s – compared to the parental one lower – own educational degree.

While in the case of EDM the attained educational level is likely to become the new launching pad for career development, especially in the German context with its tight education-occupation linkage, for the development of the occupational careers of men who experienced EDM we expect that a catching up process takes place.

Differences between cohorts in the way educational adversity influences career attainment could be expected as a result of macro conditions being more favourable or less favourable for catching up during an occupational career. Though the birth cohorts under investigation clearly experienced favourable conditions to different degrees, earlier research has shown that these conditions did not

substantially influence the chance to compensate for lower first jobs over the later career: Early disadvantages in the labour market have a marked and lasting effect on occupational attainment at later stages (Barone and Schizzerotto, 2011:339). Therefore, from the often cited influence of rigid institutions in Germany on the one hand and examples of successfully reversed early adversities cited above, we expect only a situation where disorder and discontinuities cut across established pathways for occupational careers. Such circumstances can be found mainly for the oldest cohort, born around 1920, which experienced the World War II and its aftermath (see also Müller and Pollack, 2004: 79-81). As hypothesis 4 we formulate the expectation that educational downward mobility was less harmful for career attainment in this oldest cohort than in any other.

Data, Variables, and Methods

Our empirical analyses are based on all birth cohorts from The West German Surveys of the German Life History Study (GLHS West) (for a detailed description of the GLHS see Mayer in this volume). The analysis of eight birth cohorts (1919–1971) allows us to study the impact of EDM on occupational careers over a period spanning seventy-one years, the earliest year for which we have information being 1934 and the latest 2005. The GLHS data contain retrospective information on an individual's entire occupational career up until the time of the interview. For men born in either of the last two birth cohorts, 1964 and 1971, retrospective information on their occupational careers covers a shorter period. We performed several sensitivity analyses using different sample specifications and the results remained substantially the same. Nevertheless, to assure comparability of occupational careers among the GLHS birth cohort members we analysed men's occupational careers from labour market entry until the age of 35.

Variables

Occupational status, our dependent variable, is measured using the SIOPS (Standard International Occupational Prestige Scale) and ranges from 14 (agricultural workers) to 79 (medical doctors)

(Treiman, 1977; Ganzeboom and Treiman, 1996). For our purposes, namely to study variations in status attainment during careers and over time, it presents the operationalization of choice because it provides a gradual measure of prestige. Another major advantage of the SIOPS is its consistency over time (Hout and DiPrete, 2006).

We operationalize educational downward mobility based on the CASMIN classification (Braun and Müller, 1997) (see appendix Table A1 for the CASMIN classification scheme and A2 for mobility table of educational origins and destinations). Respondents provided information on their father's educational level and occupation when they were aged fifteen. Where information on more than one father (i.e. a stepfather) was provided, we chose the father who had lived in the family household for longest. This classification comprises general as well as vocational qualifications, which is important for the German context, where access to occupational positions is shaped largely by vocational certificates. We collapse the nine categories into three: basic vocational qualification or general elementary education and vocational qualification or less (1a,b,c); intermediate general or vocational qualification or maturity (2a,b,c_gen, c_voc); and lower or higher tertiary education (3a,b). We acknowledge that we thereby lose a considerable part of the available information, and that we might underestimate the “true” degree of educational mobility. However, we consider this solution to be the most robust one with respect to the changing relevance of the same educational certificates across cohorts and historical time. A robust solution is also important in light of the fact that we do not dispose of any direct measurement of downward mobility stress and motives for occupational attainment. One has to be aware that the educational attainment of the birth cohorts we investigate and of their fathers spans almost an entire century, which saw drastic changes not only in the system of education and training but also in occupational structure. Using the collapsed classification we confine ourselves to demarcations that are comparably less affected by these drastic changes. Academic occupations have always required tertiary education, and, as a rule, skilled work has always required general or vocational training over and above that provided by lower secondary general education. Admittedly, there are exceptions to this rule, namely in the case of the self-employed, and where access to senior positions, such as managerial positions, was not formally dependent on credentials.

To include social background we use father's occupational status when the respondent was fifteen years old. Father's occupational status is measured using the SIOPS as well. Individual skill levels are indicated by the absolute level of a respondent's education. Based on the CASMIN classification scheme (see Table A1 in the Appendix) we created five ordinal categories: lower secondary level or less without training (I), lower secondary level or less including training (II), middle or higher secondary level without training (III), middle or higher secondary level including training (IV), and tertiary education (V). Our reference category is the "lower secondary level or less without training". Working experience is measured by the number of years since labour market entry, divided by ten for easier interpretation. The variable working experience is measured from the first real job as indicated by the respondent.

We added a quadratic term for experience to control for the non-linear effects of working experience on occupational status. Finally, we include dummy variables for the respondent's birth cohort. The reference category is the 1929-1931 birth cohort.

To handle missing data we chose to apply list-wise deletion, dropping cases with missing values for the dependent variable and the central independent variables of educational level and occupational status of father. In total this reduced the number of men in our analyses by 831. After excluding cases with missing information on variables included in the analyses, the sample consisted of 3,193 men and a total of 28,602 occupational observations. Descriptive information on all variables is provided in Table 1.

[Table 1 about here]

The variation in educational downward mobility is shown in Figure 1. There is no general trend that younger cohorts generally have less educational downward mobility because they profit from educational expansion. Rather, there are two "outlier" cohorts, namely those of 1939-1941 and 1971, with a higher degree of downward mobility compared with the other cohorts. And the two oldest

cohorts have comparably less downward mobility, which might be due to a bottom effect: because their parents had overwhelmingly very low degrees of education, educational downward mobility was by definition unlikely, if not impossible. Because we do not intend to explain the emergence of educational downward mobility and its variance across birth cohorts, we abstain from offering a systematic interpretation of these differences. We assume that the higher degree of downward mobility experienced by the older cohort (1939-41) might be due to the fact that it is a “baby boom cohort”, and that for the youngest cohort (1971) it might have been, at least partially, caused by the fact that this cohort was the first whose parents profited from the onset of educational expansion, which widened the risk of their sons experiencing educational downward mobility. Again it should be stressed that the degree of downward mobility depends largely on its operationalization. Whereas we opted here for an operationalization that should be robust across historical time and which, with rather clear differences between levels of educational achievement, should meet the need to capture downward mobility which is presumably perceived as psychologically harmful. Other more fine-grained definitions would yield higher degrees of educational mobility and also other variant patterns across cohorts, e.g., according to historically varying opportunities to acquire different degrees of vocational training.

[Figure 1 about here]

Methods

We apply growth curve modelling (multilevel random effects models; see Snijders and Boskers, 1999) to study the effects of EDM on men’s occupational careers over the twentieth century. Recently, an increasing number of studies have employed growth curve modelling to study occupational careers because of its ability to describe the development of occupational status over the life course and to explain variations in the development of occupational status across different groups (i.e. individuals with higher or lower levels of education) (Härkönen and Bihagen, 2011; Schulz and Maas, 2012; Manzoni, Härkönen, and Mayer, 2014). These models also allow us to test our hypotheses on the

effect of EDM on the average status across the career and for the development of occupational status. The latter is done by including an interaction term between work experience and EDM that indicates the rate at which status grew over the life course for men who experienced EDM compared with the rate for men who did not.

The first model is the “empty” model without predictors and illustrates the distribution of variance across individuals and within individuals, i.e. over the course of the occupational career. Model 1 presents a baseline model to assess how working experience, absolute educational level, and social background shape the development of occupational status over the career. In addition, we control for birth cohorts. Whether EDM influences the rate of growth in status is tested in model 2. Model 3 presents the effect of EDM on the average occupational status over the career. The interaction between EDM and the SIOPS of the father is included in model 4 to assess whether familial resources vary according to whether men were able to reproduce the level of education of their fathers. In model 5 we assess whether the effect of EDM varies according to cohort-specific conditions by including interactions between educational adversity and cohorts. All analyses were conducted using Stata 13.

Results

[Figure 2 about here]

Figure 2 shows the average occupational careers of men who experienced educational downward mobility and of those who did not. The average occupational status for both groups of men increased across the life course. Furthermore, we see that the careers of both groups started at the same level of occupational status, but that men who experienced educational downward mobility subsequently had a slightly higher occupational status. However, the operationalization of EDM is almost inevitably confounded with parental status – men who are educationally downwardly mobile have by definition parents with a higher level of education, and especially in Germany this means higher occupational status, a resource that already proved to be helpful for career development in addition to educational

attainment. By definition, those with parents at the bottom of the education ladder (lower secondary or less) cannot experience educational downward mobility. It is necessary therefore to control for these confounds, which we do by applying multilevel growth models to account for compositional differences among these groups.

Results of multilevel growth models of men's careers

Table 2 presents the results of our analyses for men's occupational status. The empty model (model 0) without predictors indicates how the variance in occupational status is distributed across individuals (between individuals) and across careers (within individuals). Seventy-eight per cent of the variance in occupational status is attributable to time-constant individual differences such as education and social background ($102.56 / (102.56 + 28.96)$). The remaining twenty-two per cent of the variance in status can be explained by changes within careers. The high proportion of variance attributable to time-constant individual differences indicates a high level of continuity in occupational careers (see also Manzoni, Härkönen, and Mayer, 2014).

[Table 2 about here]

The baseline model (model 1) includes the standard status attainment variables: experience, experience squared, education, and occupational status of father, plus dummies for the birth cohorts under investigation. As expected, status did increase during the career of the men in these eight cohorts. For every additional ten years of working experience, men's status increased by about 1.6 status points. In addition, we found the squared experience term to have a significant effect, indicating that the growth in men's occupational status decreased slightly with occupational maturity. Education proved to have the strong positive effects on men's occupational status expected. For example, on average, men who completed middle or higher secondary education enjoyed a status *c.* 9.9 points higher than that of men who had completed only lower secondary education or less. But father's occupational status, too, proved to be important for the occupational career of their sons, even controlling for the sons' educational attainment. An increase in the father's status is associated with a 0.15 point increase in his son's status. Adding these individual predictors to the model reduced the variance at the individual

level from 102.56 to 56.38. Thus, almost half of the variance in occupational status between individuals is explained by the predictors added in model 1. The variance in occupational status within careers decreased only slightly (28.96 to 27.31). The expected cross-cohort upgrade in the occupational structure is illustrated by the effects of the birth cohorts. Even when taking the individual characteristics of men into account, we find that men born around 1950 or later benefited from an increase in higher-status occupations. For example, men born between 1959 and 1961 had over the course of their careers an occupational status that was, on average, 2.6 points higher than that of men born between 1929 and 1931.

We start by testing whether the pace at which status grows over the career differs for men who had experienced EDM. We expected that the failure to reproduce the level of parental education might have triggered a high degree of motivation for an accelerated pace of career development (hypothesis 1). Model 2 presents the interaction of adversity with experience. In the presence of the interaction effect, the main effect of EDM refers to the start of the career, but there is no significant difference in occupational status at labour market entry. Educational downward mobility, in line with our expectations, did significantly influence the rate at which status grew over the career. For every ten years of labour force experience, the status of men who experienced EDM increased 1.63 points faster. Hypothesis 1 is therewith supported.

To test hypothesis two we present the effect of educational downward mobility on the average status across the career. The descriptive results (see Figure 2) showed that the careers of educationally downward mobile people developed on a higher level of status compared to those of people who were not downwardly mobile. . Model 3 presents the effect of educationally downward mobility on men's average status across the career. Controlling for own educational attainment and father's occupational status, the insignificant effect of EDM indicates that on average the career of men who experienced EDM and those who did not did not differ. The difference between the descriptive and the multivariate results is in fact caused by the inclusion of the father's SIOPS in the model. Additional analyses (not shown here) controlling for the father's SIOPS have shown that the downward mobility variable is confounded with the positive impact of father's status, because downward mobility has its origin

mainly in higher-status households. The inspection of the predicted effects based on model 2, thus taking into account differential growth in status, indicates that men who experienced EDM eventually slightly overtook men who did not experience EDM (see figure 3). We thus conclude that in line with hypothesis 2, men who experienced EDM had careers on a slightly higher level of status.

Next, we assess variation in the role of social background according to educational downward mobility. Hypothesis 3 which predicts that parental resources have a stronger effect for men who failed to reproduce their father's level of educational achievement, is tested in model 4. Countering this expectation, men who experienced downward mobility benefited slightly less from their parental resources.³ While the main effect of EDM is not significant (0.59), the negative interaction between EDM and father's status indicates that for these men the effect of father's status was 0.08 points less than for men who did reach at least the level of education enjoyed by their father. We expected that the stronger effect of parental status might be one mechanism by which men were able to move into higher status occupations faster. As the effect of the interaction between EDM and experience does hardly change from model 3 to 4 (1.63 to 1.64) we conclude that parental resources were no means to increase in status at a faster pace. To the contrary, this finding might thus indicate that existing familial status resources cannot be properly utilized for status attainment, possibly due to the absence of a father or to a dysfunctional father-son relationship. For now, it remains uncertain whether men had problems using these resources and therefore experienced EDM, or whether they were unable to use these resources because of EDM.

To test whether cohort-specific conditions influenced the impact of downward mobility over the course of the career, we included interaction terms between EDM and birth cohort in model 5. None of the interaction terms is significant. The effect of having experienced EDM on men's occupational status does not vary across cohorts and does not confirm hypothesis 4 assuming more opportunities specifically for the oldest cohort.

³ We estimated additional models including the interactions between adversity and experience and adversity and social background separately. The results are very similar to model 4.

Summary and outlook

In this contribution we address a topic up until now left neglected, i.e., the question of whether and how educational adversity in the form of the failure to reproduce parental educational attainment is perpetuated by an occupational career bound to the lower degree of education, or whether such an adversity can be compensated to some extent by higher and faster occupational attainment. We look at eight West German birth cohorts born between 1919 and 1971 to investigate how stable the influence of EDM was over the course of the twentieth century, and to assess cohort-specific differences with respect to the consequences of EDM for career attainment. The GLHS data provide us with a sample of around 3,000 men who experienced various contextual situations during phases of education, labour market entry, and their occupational career.

The multivariate results of growth curve analyses revealed that men could to some degree compensate for educational downward mobility. While at labour market entry, men who experienced EDM were not more successful than their peers with the same level of education, they showed a faster increase in status over their career as well as a slightly higher average status. Our argument that educational downward mobility might induce additional effort to be occupationally successful seems true. The only slight increase seems to stay within the limits set by educational degrees, though. Thus, one's own educational level indeed became the launching pad of career development but did not prevent counter-mobility completely.

We further argued that in the case of EDM, parental resources operationalized by father's SIOPS are an even more competitive advantage in supporting the occupational career and will be utilized to compensate for initial failure to reproduce the father's educational level. However, contrary to this expectation, parental resources did not prove to be increasingly helpful for the occupational attainment of sons in the event of educational adversity. In contrast, we found that men who experienced educational adversity profited even slightly less from these familial resources. We assume that unobserved high-risk family characteristics such as the absence of a father might inhibit the intergenerational transmission of advantage, and might have contributed to the emergence of EDM as well.

In addition we examined whether differential, collectively experienced macro conditions shaped opportunities for such counter-mobility by comparing the effect of EDM on men's average occupational status across eight birth cohorts. Societal and economic opportunities to correct for this initial adversity were unevenly distributed across our birth cohorts. However, these opportunities did apparently not impact the role of EDM, as we did not find any variation across cohorts in how EDM shaped the careers of men.

To our knowledge, our contribution is the first to investigate the possible impact of educational downward mobility on occupational career attainment. We regard our contribution as a first step which might stimulate further research to unravel the individual and collective risks more precisely than we can do here. First, psychological consequences of educational downward mobility, which we inferred here on a theoretical basis, should be measured directly. Secondly, the influence of varying macro conditions on the process of catching up could be tested more systematically. This is not a trivial exercise, however, because the availability of reliable and at the same time theoretically informed macro indicators over such a long time span is restricted. One could, for instance, include indicators for skill-biased technological change, unemployment rates, or job vacancies to assess variations in the opportunities to catch up. A comparison between East and West Germany as well as with other countries would add variety in macro conditions with respect to different institutional regimes and the impact of a sudden systemic change. Questions that could be addressed are whether possibilities for catching up are limited in tightly structured institutional regimes and whether sudden systemic changes may increase chances of successful reversal of early adversities.

Thirdly, other operationalizations of educational downward mobility could increase our understanding of educational downward mobility as a risk to status attainment. Any definition is subject to strong assumptions about stability and change in the relative meaning of nominally the same educational degrees for status attainment across historical time. Here we chose a comparably robust but at the same time very parsimonious operationalization, which discarded many possibly relevant differentiations between degrees of education. We do not believe that any single categorization will cover all relevant aspects in the definition of educational downward mobility across generations over

different birth cohorts, but we suggest that employing and comparing different operationalizations might enhance our understanding of the role of EDM for status attainment. For example, does a bigger or in contrast rather a smaller distance between parental and one's own level of education lead to a catching up process over the occupational career? As a fourth direction, we suggest that further research should include the investigation of possible causes of EDM, such as characteristics of the family of origin, because they might not only influence the emergence of EDM but also its consequences for later life. Our results have shown that in the case of EDM, men were impeded in taking advantage of parental status. We suggested that father absence or disturbed family relationships (McLanahan, Tach, and Schneider, 2013) might play a decisive role. Unfortunately, in the GLHS the information on the absence of fathers was too inconsistent to allow us to include it in our analysis. Other family characteristics known to influence status attainment deserve attention as well, like sib size and sibling position (Hauser and Sewell, 1985; Black et al., 2005; Härkönen, 2013). Parental investments in educational attainment and therewith the risk of experiencing educational downward mobility may vary according to these aspects of the family structure.

In summary, our analyses show that even in the tightly structured German systems of education and training, counter-mobility is possible. Once more, we see the continuous influence of the family of origin on adults' life courses. Even in a situation where the transmission of parental assets is impeded, there is an additional effort to approach an occupational status closer to a level that the parental level of education would have allowed. However, all in all, these efforts can only compensate the educational failure to a limited degree.

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Tables:

Table 1. Descriptive statistics

	Min.	Max.	Mean/%	St. dev.
Time-invariant variables (N=3,193)				
Educational level below that of father (1/0)			7.36	
Education				
Lower secondary level or less			8.74	
Lower secondary level or less including training			46.82	
Middle or higher secondary level			8.30	
Middle or higher secondary level including training			26.46	
Tertiary education			9.68	
SIOPS father	15.00	78.90	38.84	11.12
Birth cohort			N	
1919–1921			416	
1929–1931			275	
1939–1941			287	
1949–1951			283	
1954–1956			429	
1959–1961			385	
1964			585	
1971			533	
Time-variant variables (N= 28,602)				
Occupational status: SIOPS	14.40	79.00	39.07	10.71
Work experience: Experience/10	0	2.00	0.61	0.46
Work experience: Experience/10 ²	0	4.00	0.59	0.73

Source: The German Life History Study, all cohorts.

Table 2. Estimates from multilevel growth models on men's occupational status (N = 3,193)

	Model 0		Model 1		Model 2		Model 3		Model 4		Model 5	
Experience/10			1.62***	(0.23)	1.47***	(0.23)	1.62***	(0.23)	1.47***	(0.23)	1.62***	(0.23)
Experience/10 ²			-0.53***	(0.14)	-0.49***	(0.14)	-0.53***	(0.14)	-0.49***	(0.14)	-0.54***	(0.14)
<i>Education</i>												
Lower sec. or less			ref.		ref.		ref.		ref.		ref.	
Lower sec. or less + training			6.08***	(0.38)	6.08***	(0.38)	6.07***	(0.38)	6.05***	(0.38)	6.07***	(0.38)
Middle/higher sec.			9.90***	(0.52)	9.92***	(0.52)	9.91***	(0.52)	9.94***	(0.52)	9.87***	(0.52)
Middle/higher sec. + training			10.45***	(0.47)	10.46***	(0.47)	10.45***	(0.47)	10.51***	(0.47)	10.45***	(0.47)
Tertiary			22.42***	(0.50)	22.49***	(0.50)	22.46***	(0.50)	22.41***	(0.50)	22.49***	(0.50)
SIOPS father ¹⁾			0.15***	(0.01)	0.15***	(0.01)	0.15***	(0.01)	0.16***	(0.01)	0.15***	(0.01)
Educ. level below father (1/0)					-0.45	(0.52)	0.23	(0.50)	0.59	(0.66)	1.32	(1.48)
Educ. level below father *Experience/10					1.63***	(0.36)			1.64***	(0.36)		
SIOPS father* Educ. level below father									-0.08*	(0.03)		
<i>Birth Cohort</i> * Educ. level below father												
1919-1921* Educ. level below father											-2.68	(2.12)
1929-1931* Educ. level below father											ref.	
1939-1941* Educ. level below father											-3.10	(1.95)
1949-1951* Educ. level below father											-3.67	(2.52)
1954-1956* Educ. level below father											-2.71	(1.99)
1959-1961* Educ. level below father											-0.24	(2.08)
1964* Educ. level below father											-0.79	(1.92)
1971* Educ. level below father											0.86	(1.72)
<i>Birth Cohort</i>												
1919-1921			0.73	(0.61)	0.76	(0.61)	0.74	(0.61)	0.76	(0.61)	0.85	(0.62)
1929-1931			ref.		ref.		ref.		ref.		ref.	
1939-1941			0.87	(0.67)	0.84	(0.67)	0.85	(0.67)	0.81	(0.67)	1.13	(0.69)
1949-1951			2.24**	(0.68)	2.22**	(0.68)	2.24**	(0.68)	2.22**	(0.68)	2.44***	(0.70)
1954-1956			3.48***	(0.62)	3.47***	(0.62)	3.48***	(0.62)	3.46***	(0.62)	3.65***	(0.64)
1959-1961			2.63***	(0.65)	2.63***	(0.65)	2.63***	(0.65)	2.62***	(0.65)	2.63***	(0.66)
1964			2.61***	(0.60)	2.60***	(0.60)	2.60***	(0.60)	2.58***	(0.60)	2.64***	(0.61)
1971			3.28***	(0.61)	3.28***	(0.62)	3.26***	(0.62)	3.24***	(0.62)	3.09***	(0.63)
Constant	41.71***	(0.19)	24.34***	(0.74)	24.44***	(0.76)	24.41***	(0.76)	30.21***	(0.56)	24.32***	(0.76)
Between individuals	102.56***	(2.82)	56.38***	(1.63)	56.36***	(1.63)	56.38***	(1.63)	56.31***	(1.62)	56.52***	(1.63)
Within individuals	28.96***	(0.26)	27.31***	(0.24)	27.29***	(0.24)	27.31***	(0.24)	27.28***	(0.24)	27.29***	(0.24)
-2*log likelihood	-93559.21		-91942.61		-91932.41		-91942.50		-91929.20		-91936.41	
Df	0		14		16		15		17		22	
N occupational measurements	28,602		28,602		28,602		28,602		28,602		28,602	

Source: The German Life History Study, all cohorts. Standard errors in parentheses; * p<0.05, ** p<0.01, *** p<0.001; ¹⁾ in the interaction term SIOPS father is mean centred

Figures:

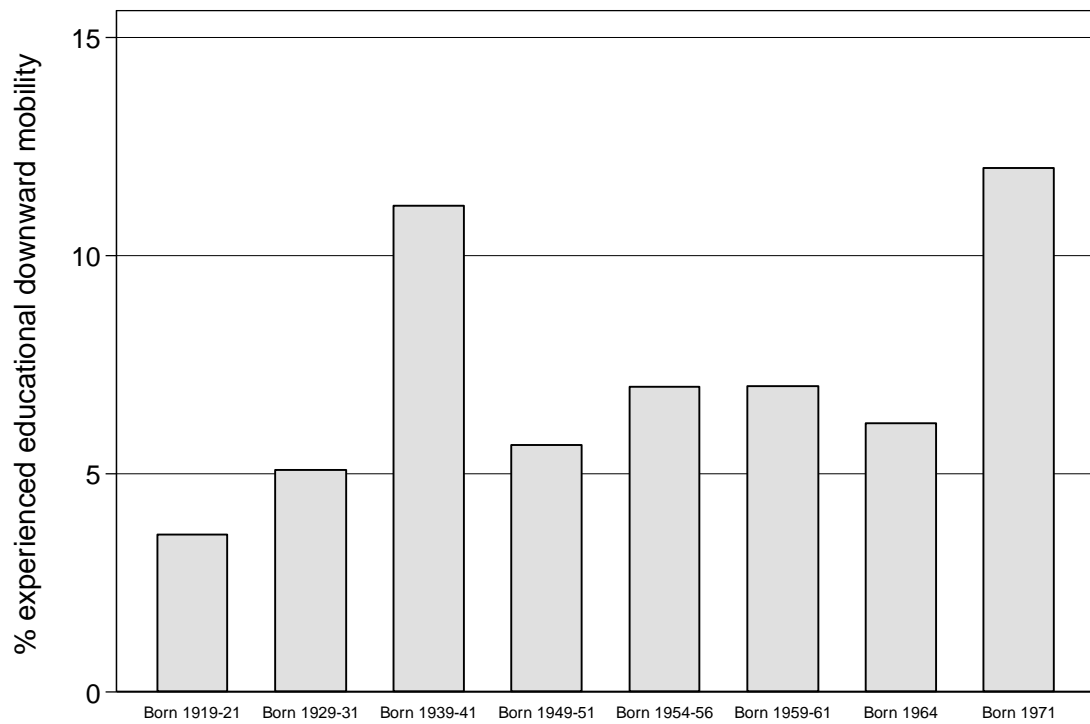


Figure 1. Percentage of men who have experienced educational downward mobility, by birth cohort
Source: The German Life History Study, all cohorts. Own calculations.

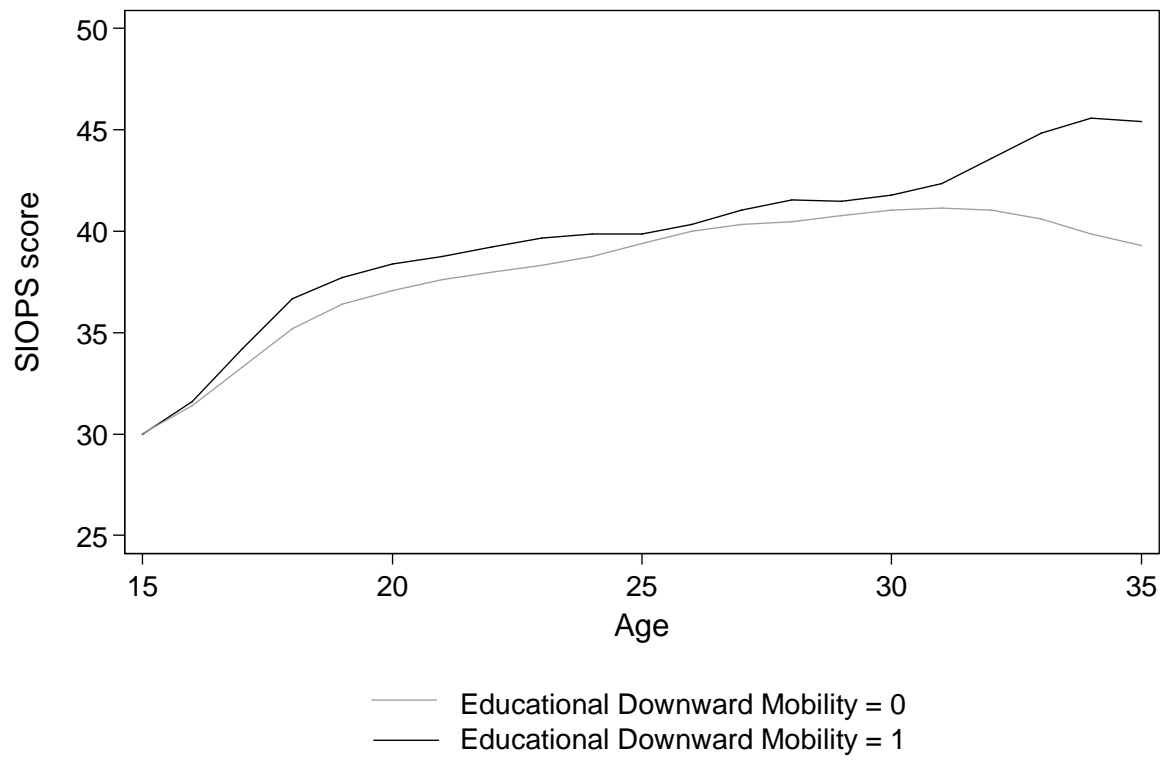


Figure 2. Observed occupational careers across the life course by educational downward mobility
Source: The German Life History Study, all cohorts. Own calculations.

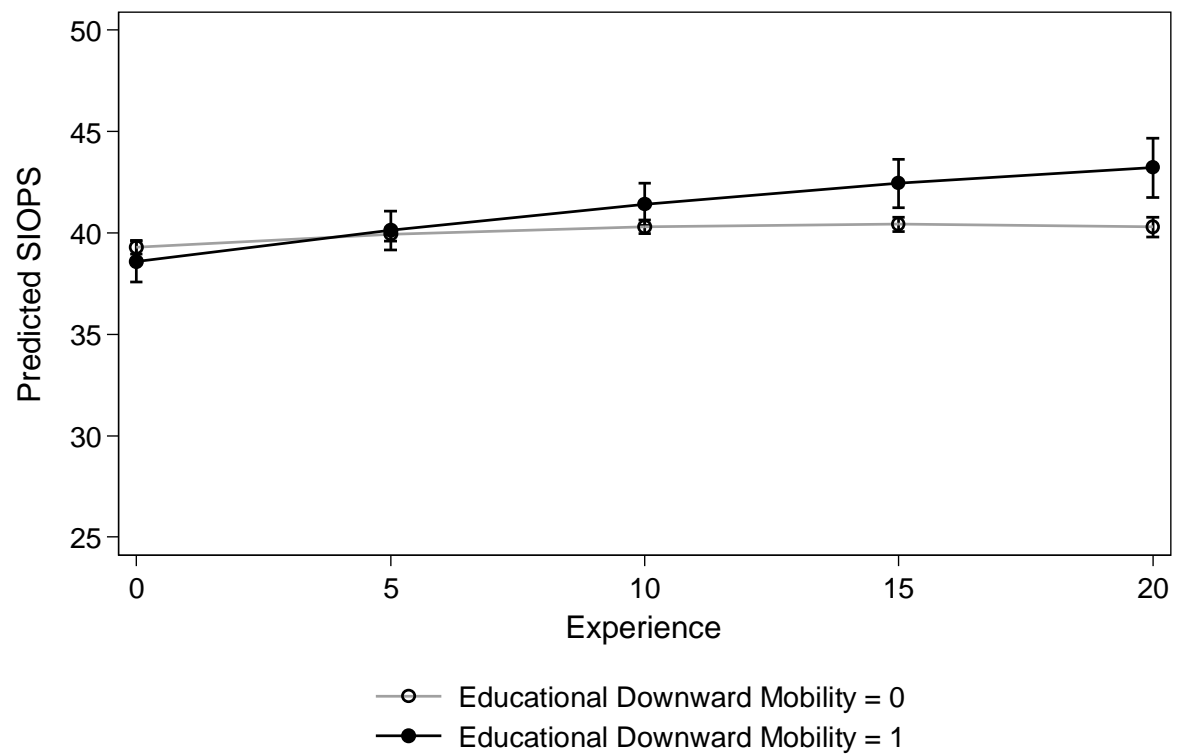


Figure 3. Predicted patterns of occupational careers across the life course by educational downward mobility based on model 2 (95% confidence interval). Source: The German Life History Study, all cohorts. Own calculations.

Supplementary material for the online appendix:

Table A1: The CASMIN educational classification scheme

Description of the qualification level	
1a	inadequately completed
1b	general elementary education
1c	basic vocational qualification
2a	intermediate vocational qualification
2b	intermediate general qualification
2c_gen	general maturity certificate
2c_voc	vocational maturity certificate
3a	lower tertiary education
3b	higher tertiary education

Table A2: Distribution of educational origins and destinations (N=3,193)

Father's education	Respondent's education			Total
	Lower secondary or less & Lower secondary or less + training	Middle/higher secondary & Middle/higher secondary + training	Tertiary	
Lower secondary or less & Lower secondary or less + training	1,647	768	131	2,546
Middle/higher secondary & Middle/higher secondary + training	97	234	77	408
Tertiary	30	108	101	239
Total	1,774	1,110	309	3,193

Source: The German Life History Study, all cohorts. Own calculations.