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**The Motive for Status Maintenance and
Inequality in Educational Decisions. Which of the
Parents Defines the Reference Point?**

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Abstract

Several theoretical approaches assume that the motive for status maintenance, that is the desire to avoid intergenerational status downward mobility, explains educational decisions and effects of the families' social status hereon. Not much is known about whether this assumption is empirically valid, and it is completely an open question which of the parents' social status provides the reference point when evaluating educational options with respect to their suitability for status maintenance. We utilize data from the Mannheim Educational Panel Study to test whether the beliefs about how likely secondary school degrees ensure the maintenance of the mothers' and fathers' status explain the decision between school tracks leading to these degrees in Germany. We compare the explanatory power of altogether nine measures, assuming the reference status to be determined by different models about how the families' status is mentally represented. Results have shown that the motive for status maintenance exerts in all versions significant effects on educational decisions. However, it proved to be strongest when the fathers' status was assumed to define success in avoiding intergenerational status demotion. After controlling for the effect of this measure, direct effects of the families' educational and occupational status were substantially reduced, but not completely explained.

Keywords: Educational inequality; Motive for status maintenance; Rational-choice theory; Reference point; Social status.

1. Introduction

Indicators for children's social background, like the parents' social class (Breen, 1998; Peraita & Pastor, 2000; Whelan & Layte, 2002), their level of education (Gerber, 2000; Kivinen, Ahola, & Hedman, 2001; Lucas, 2001), or the families' socioeconomic status (Conley, 2001; Luijkx, Róbert, de Graaf, & Ganzeboom, 2002; Marks & McMillan, 2003) were found to strongly affect their educational attainment. Different versions of Rational Choice Theory (RCT) claim to explain this inequality in educational opportunity as the aggregated result of individual actors' instrumentally rational decisions between educational options (Breen & Goldthorpe, 1997; Erikson & Jonsson, 1996; Esser, 1999: 265). Differences in the costs, the labor market returns of education, and in the perceived chances to successfully realize educational credentials according to the children's social origin are assumed to explain inequality in educational outcomes. Additionally, the motive for status maintenance (MSM) is assumed to be a pivotal reason for how families' status affects educational attainment. Accordingly, families are expected to strive for such educational degrees which they believe will be necessary and sufficient to ensure their offspring to reach at least the families' social status. Differences between social classes in how much education is believed to be necessary for realizing this aim are expected to explain social inequality in the motivation for educational investments: Lower classes expect already modest educational credentials to reproduce the parents' social standing, but in higher classes this is only assumed when the children complete advanced educational carriers. Although RCT assumes other factors to be relevant for status differences in educational decision, already the differential social returns to education from the MSM are assumed to be sufficient to explain effects of children's social origin.

Although the MSM is regarded in all versions of RCT as a core determinant for educational decisions and is believed to be a very important reason for effects of social origin on educational decisions, only a few attempts have been undertaken to test these hypotheses empirically (Becker, 2003; Breen & Yaish, 2006; Davies, Heinesen, & Holm, 2002). All the

available studies rely on secondary data, and the operationalization of the MSM is either based on behavioral indicators or on very indirect measures for how much education the actors believe to be necessary for avoiding intergenerational status demotion (for an exception cf. Stocké, in press). It is thus an open question at present whether educational decisions are indeed affected by this motivational factor. Furthermore, RCT does not specify theoretically which of the parents' social statuses, when different, defines the reference point for judging which level of education would be necessary for realizing status maintenance. Without knowledge about how parents arrive at a notion of what represents the families' social status, it is, however, not possible to predict the exact consequences of the MSM for educational decisions.

In educational sociology, different theoretical models have been discussed, about which of the adult family member's educational and occupational status can be expected to have the strongest effect on children's educational achievement. In these models, the fathers', the mothers' or different combinations of both parents' characteristics are assumed to be the appropriate basis for predicting effects of social heritage on educational careers. Prominent versions are the traditional model (e.g. Goldthorpe, 1983), the individual model (e.g. Sørensen, 1994), the dominance model (e.g. Erikson, 1984), and the sex role model (e.g. Acock & Yang, 1984). Some empirical evidence exists about which of these models is most appropriate to represent the direct impact of children's social background on their educational outcomes (Korupp, Ganzeboom, & Van Der Lippe, 2002). However, no research is available for which of these models represents the parents' subjective definition of the family's status, when judging different educational degrees' contribution to satisfy their MSM.

The present study has three related aims. First, we utilize a new and direct measure for the actors' beliefs about how likely different educational degrees will lead to status maintenance, in order to test empirically for whether this factor explains educational decision. Second, these beliefs with respect to the mother's and father's occupational status are the basis for

comparing the predictive power of altogether nine models about which parent provides the reference point for success in avoiding status demolition. And *third*, we test the theoretical prediction that the MSM explains to a substantial degree effects of social origin on educational outcomes. We utilize data from the Mannheim Educational Panel Study (MEPS), in which the selection between secondary school tracks in Germany is analyzed.

2. Theoretical Background

Within the framework of the RCT, educational outcomes are the result of instrumentally rational decisions between institutionally defined educational careers (Breen & Goldthorpe, 1997; Erikson & Jonsson, 1996; Esser, 1999: 265). Three factors are regarded as necessary and sufficient to explain these selections. The *first* determinant consists in the direct and indirect costs expected when children realize differently demanding educational degrees. Whereas direct costs embrace all school-related expenses necessary while the children attend school, indirect or opportunity costs refer to forgone labor-market income during this time. The *second* determinant of educational decisions is how likely children are expected to successfully complete different levels of educational careers. Aside from other factors, the children's academic competencies predict the subjective beliefs in school success in the future. Because of the lower-class families' restricted access to cultural, economic, and social resources, their children's academic performance is, on average, poorer than that of the offspring with more advantaged class background (Esping-Andersen, 2004).

The *third* factor regarded to be relevant consists in the returns which the actors associate with different educational careers. Whereas, in the human capital approach, only labor-market returns to education, as wages or reduced unemployment risk, are regarded to be relevant, the sociological RCT assumes social benefits of education to be relevant as well (Breen & Goldthorpe, 1997; Erikson & Jonsson, 1996; Esser, 1999: 265). These benefits are the result of how likely a particular school degree enables the children to reach at least the parents' social

status. Consistent with one of the core assumptions of prospect theory (Kahneman & Tversky, 1979), the families' status position defines the reference point, relative to which their offspring's possible status attainment is evaluated as an improvement or deterioration. Families from all classes are equally motivated to minimize the risk of inter-generational downward mobility, whereas the chance of upward mobility is much less an incentive for educational decisions. Since occupation can be regarded as the main determinant of the children's status position in the future, taking the MSM into account requires the parents to form beliefs about how likely the labor-market outcomes of different educational credentials will enable their children to obtain at least their own social status. It is assumed that these beliefs about the suitability of different educational degrees for status maintenance differ considerably between classes: From the perspective of less privileged classes, already less ambitious degrees are relatively likely to avoid status demolition. In contrast, the middle and upper classes need to consider much more education in order to reach the same confidence level. According to this reasoning, an increase in educational returns from satisfying the MSM when considering more advanced educational degrees, and thus the incentives to invest in higher education, is stronger for families with a more advantaged status position.

In recent decades, labor-market participation of women has considerably increased, and thus, in many families both parents have an occupational status, which may differ between the spouses. In these cases, it is not obvious how the status position of the family, and thus the reference point for when status maintenance would be reached, is defined. In social mobility research, several models about which indicator most extensively captures direct effects of families' social status on children's educational outcomes have been discussed. In an early view on this topic, it has been assumed that, due to more stable employment histories, the father's occupational position exclusively defines the families' status (Goldthorpe, 1983). In contrast to this status-borrowing view of the conventional model, other perspectives assume women, when participating in the labor market, to equally contribute to the status definition of

the family (Sørensen, 1994). In this independent or individual status model, both parents are predicted to exert equal effects on children's educational outcomes. Another model does not differentiate between effects of fathers and mothers, but between that of the higher and lower status parent, independently of sex. In the dominance model (Erikson, 1984), only the higher-status parent is assumed to determine the status of families. In a modified version of this model, the higher-status parent is predicted to have the strongest definitional power for the location of the family in the status hierarchy, but the other parent is expected to have an additional, albeit weaker effect on children's outcomes (Korupp et al., 2002). Whereas, in the up to now mentioned models, the relative power position in the family is assumed to determine the more influential parental social status, in another perspective, sex roles are assumed to be the decisive factor. Here, the respective same-sex parent is predicted to provide the role model for which status position boys and girls will strive for (e.g. Acock & Yang, 1984). Another possible model about how subjects could conceptualize the reference point for status maintenance is the inverse dominance model. Whereas, in the case of the dominance model, the aim is to avoid intergenerational downward mobility with respect to each of the parents, the inverse dominance model assumes that the MSM is already realized if the children reached at least the status level of the lower-status member in the family. This can be regarded as a low ambition strategy.

Although RCT does not define which status position in the family provides the reference point for the MSM to work, one can argue that some models are theoretically more consistent with the theoretical approach than others. In RAT, cultural factors like social values and norms are explicitly assumed not to be relevant for explaining social inequality in educational decisions (Breen & Goldthorpe, 1997). From this perspective, the sex role model cannot be assumed to be the appropriate basis for predicting how parents define the families' social status.

3. Previous Research

Very few studies tried to test the relevance of parents' MSM for educational decisions empirically. A study with data from Denmark analyzed implications of this motive for the decision between different pathways through the educational system after the 9th grade of secondary school (Davies et al., 2002). Children of more educated parents were expected to continue in the school system for a longer time, and the parents' education should have a nonlinear effect on the transition probability to advanced school types: As long as having not reached the parental educational level yet, the propensity to make the next transition strongly increases with the parents' education, and this effect is assumed to become much weaker afterwards. The empirical analysis has shown this hypothesized nonlinearity only for 5 out of 17 analyses; hence, the empirical evidence for the effect of the MSM is mixed. This may be due to the fact that RCT assumes the parents' occupational status rather than their educational degrees to provide the reference point for the motive for status maintenance: Reaching the parents' educational level does not necessarily avoid downward mobility with respect to occupational status.

Another study used the fathers' class position as a reference point for the MSM (Breen & Yaish, 2006). It was tested for leaving school, choosing a vocational track, or an advanced A-level course after having completed O-levels in Britain, how likely the respective educational degrees lead to certain class positions in an older cohort than the one under consideration. These probabilities were used as proxies for the beliefs about how likely completing educational tracks will avoid status demolition. Among the three hypotheses about class differences in educational decisions, only one has been confirmed empirically. However, as the authors emphasize themselves, the critical and untested assumption is that the actors' beliefs about the educational degrees' suitability to status maintenance is in agreement with the objective probabilities in this respect.

The evidence presented above for whether beliefs about status maintenance explain educational decisions is restricted to factors which may be regarded as objective antecedence conditions of these beliefs. However, it remains untested whether the observed effects operate through the theoretically predicted mechanism. A study utilized data from three states in Germany in order to test for the effect of subjective indicators for the MSM (Becker, 2003). The perceived risk of status demotion was assessed by how much the parents believed education to have an impact on social status. The results proved that this indicator had a significant effect on the intention to select higher educational tracks. Although this study provides, at present, the best available test of the hypothesis that the motive to avoid intergenerational status demotion matters, this evidence is far from being conclusive. *Firstly*, the operationalization of the theoretical parameter is rather indirect: It is difficult to see why parents believing that education has an effect on their children's social status in future should necessarily have done so because of their MSM. *Secondly*, the effect of the factors was only tested for the intended, not for the real educational decisions. *Thirdly*, since neither the families' class nor their educational status position was included into the analysis, the study does not show whether the MSM explains effects of social origin. And *fourthly*, no evidence has been provided for which status is utilized as a criterion for when status maintenance would be reached.

In a study where several predictions from the Breen-Goldthorpe model of rational educational decisions have been tested with mixed results, evidence has been found for the MSM to be relevant for the decisions between secondary school tracks in Germany (Stocké, in press). The probability of selecting a particular kind of secondary school track was found to be a function of how suitable the options were judged to guarantee at least the parents' social status. Here, the parents' highest class position has been assumed to provide the reference point for when status maintenance would have been successfully realized. This effect was found net of the judged economic costs of the school tracks and the estimated probability of the children to be able to complete these degrees. The class differentials in educational deci-

sions have been found to be reduced, but were still significant after the direct effect of the MSM has been controlled.

It has not been tested yet which of the individual parents' social status is utilized as a reference point when judging how much education is needed in order to reach status maintenance. Some empirical evidence is, however, available, for which operationalization of the families' educational and occupational status exerts the strongest effects on children's educational outcomes. Several studies have shown that both, the fathers' and the mothers' educational status, have significant net effects on children's educational attainment. This has been found with data from the U.S. for the probability of high school graduation (Haveman, Wolfe, & Spaulding, 1991; Kalmijn, 1994) as well as for the highest secondary school degree obtained in Germany and the Netherlands (Sieben, Huinink, & de Graaf, 2001). In some studies, the mothers' education proved to exert the stronger effect (Haveman & Wolfe, 1995; Leibowitz, 1974; Murnane, Maynard, & Ohls, 1981; for inconsistent results cf. Kane, 1994). In other studies, the mothers' education had a significant effect on children's educational attainment, but that of the father proved to be irrelevant in this respect (Arum, 1998).

With respect to how to operationalize the families' occupational status, many studies utilized the fathers' status and proved significant effects of this background measure on educational attainment (i.e.: Hansen, 1997; Johnson, 2002; Van de Werfhorst & Andersen, 2005). However, empirical evidence suggests that the mothers' occupational status exerts an additional and independent influence. With data from the national survey of Families and Households, it has been found that, controlling for both parents' education, the fathers' and mothers' socioeconomic status had significant net effects on the probability of children to obtain a high school degree and to enroll for college (Kalmijn, 1994).

One study systematically compared the predictive power of altogether 10 versions of how to operationalize families' educational and occupational status, based on the individual parents' characteristics in this respect, on the length of education subjects obtained in Germany,

the Netherlands, and the U.S. (Korupp et al., 2002). These versions included (1) the fathers', (2) the mothers' and (3) both parents status, the (4) highest, the (5) lowest and (6) both status indicators, (7) the parent with the same, (8) the one with the other sex than the child, and (9) both versions of the sex role-based indicators for the families' status positions. Furthermore, since the ISEI socioeconomic index and the parents' years of education have been used as metric measures for educational and occupational status, the authors included (10) the parents' average educational and occupational status into their analysis. It has been found that the modified dominance model, including the socioeconomic status of the higher and lower status parent at the same time, most fully captured the direct effects of family background on the educational outcomes.

4. Empirical Study

4.1 Sample and Method

We used longitudinal data from the Mannheim Educational Panel Study (MEPS) in order to realize the aims of our study. Altogether 989 families with children in the first term of the third grade of one of 48 randomly selected primary schools in Rhineland-Palatinate, Germany, participated in the first panel wave in 2003. These were 45.2 percent of the population of 2186 families in the selected schools, where the parents were not immigrants of the first generation. We conducted follow-up interviews in the middle of the second term of the fourth grade in 2005, shortly after the families registered their children for a particular type of secondary school. Although we assume that the children, who were on average 10.6 years old when this decision has been made, influenced the educational decisions, we expect the parents to be more relevant in this respect. Thus, the data utilized in our analysis was provided by the parent who was declared to mainly deal with the school-related issues of the target child. This was in 93.6 percent of the cases the mother and in 6.4 percent of the cases the father of the

target child. Due to nonresponse and panel attrition, data for the relevant variables was available for 778 families and thus 78.7 percent of the initial sample.

4.2 Operationalization

The following variables were used to operationalize the educational decision as well as the different versions of the motive to ensure intergenerational status maintenance. Since we included the educational and occupational status of the families in our analyses, the measures for these characteristics are presented as well.

- *Selected type of secondary school:* Families were supposed to decide at the end of the mid-term of the 4th grade about the secondary school track they wanted their children to continue in the 5th grade. Since in Rhineland-Palatinate there are no institutional constraints, the families were free to select any school type. There were three options, which would lead after successful completion to clearly defined educational degrees. These were (1) lower secondary school ('Hauptschule'), which is completed after the ninth grade, (2) intermediate secondary school ('Realschule'), taking ten years of schooling, and (3) upper secondary school ('Gymnasium'), after which the children are entitled to enter university after the 13th grade. In other schools, different degrees can be obtained, depending on which tracks are chosen within the schools and on how long the children stay at school. These are 'Gesamtschule' and 'Waldorfschule', where all degrees can be realized, as well as 'Regionalschule', where either a lower or intermediate school degree can be obtained. According to the parents' reports, 84.8 percent (N=660) had chosen school tracks which lead to clearly defined degrees, whereas 15.2 percent (N=118) selected other school types. The latter families were regarded as not having decided about the educational degree for their children yet and were therefore excluded from our analysis. Among the 660 families left in the analysis sample, 5.0 percent selected a lower, 26.5 percent an intermediate, and 68.5 percent an upper secondary school for their children.

- *Families' occupational status:* We used the parents' social class, as indicated by their position on a four-category EGP-class scheme (Erikson, Goldthorpe, & Portocarero, 1979) in order to operationalize their occupational status. Following the reasoning of Goldthorpe (2000), we differentiated between occupational positions which can be characterized by pure service contracts (upper (I) and lower (II) service class), those with qualified (lower sales services (IIIb), skilled manual workers (VI)) as well as unqualified (unskilled workers (VII)) labor contracts, and classes with mixed kinds of occupational positions (routine non-manuals (IIIa), small proprietors (IV), supervisors (V)). When the respective parent, at the time of the interview, did not participate in the labor market, but was gainfully employed before, the class position of this former occupation was utilized. This was the case for 2.9 percent of the fathers and 44.6 percent of the mothers. The distribution of the fathers' and mothers' class position was as follows: Father's class: I, II: 50.5 percent, IIIa, IV, V: 18.0 percent, IIIb, VI: 18.2 percent, VII: 7.1 percent, Missing: 6.2 percent; Mother's class: I, II: 42.1 percent, IIIa, IV, V: 36.8 percent, IIIb, VI: 14.7 percent, VII: 2.7 percent, Missing: 3.6 percent. The class position of fathers' and mothers' differed in 55.7 percent of the families.

- *Families' educational status:* The educational status was operationalized in the case of both parents using their highest completed secondary school degrees. These degrees were differentiated: (1) lower secondary school degree or less, (2) intermediate secondary school degree or (3) upper secondary school degree. The distribution of education in our sample was as follows: Fathers: lower secondary school degree: 28.8 percent, intermediate secondary school degree: 24.2 percent, upper secondary school degree: 47.0 percent; Mothers: lower secondary school degree: 15.3 percent, intermediate secondary school degree: 39.7 percent, upper secondary school degree: 45.0 percent. In 46.7 percent of the cases the parents held different educational degrees.

- *Motive for status maintenance:* In modern societies, occupation is the most important determinant of social status. Thus, in order to select an educational career for their children

which is likely to satisfy their MSM, the parents have to anticipate which occupational positions on average can be reached with different educational degrees. On the basis of these beliefs, and taking their own status position into account, they are assumed to construct a probability for how likely each educational degree will successfully lead to status maintenance. The MSM will be the more relevant for selecting between educational tracks, the more different the respective degrees will be perceived with respect to their ability to avoid intergenerational status deterioration. The subjective probability that educational credentials will lead to status maintenance is assumed to increase (a) when higher level educational degrees are under consideration, and (b) when the same degrees are judged from less favorable status positions. In particular, the evaluation of higher degrees is expected to differ more strongly when being judged from more advantaged status positions.

The probability that degrees are suitable for realizing status maintenance has been operationalized in our study by asking the respondents for each possible degree how likely this degree will enable their children to reach an at least as prestigious occupation as their own.¹ The responses ranged between 1 (this is impossible) and 7 (this is absolutely sure). The respondents were asked these questions with respect to their former occupation, when they were not gainfully employed at the time of the interview, but were in workforce before. Furthermore, the same questions were asked with respect to their partner's occupation as a reference point as well. For the sake of an easier interpretability, we normalized all indicators for the MSM into a range between 0 (zero success probability) and 1 (sure success probability).

- *Models determining families' status and reference points for MSM:* In order to test which of the parents' status is utilized as a criterion for when the aim of avoiding status demotion

¹ Question: 'Please think about what your child will be able to reach in future with different educational degrees. As how likely do you regard it that your child, endowed with the different educational degrees, will be able to reach occupationally at least what you reached? [Asked for all three degrees].'

would be reached, we created six different indicator variables, based on the above-presented models about how the families' status is likely to be mentally represented. These are *firstly* the traditional model, where we utilized the informants' beliefs about how likely educational degrees will enable their children to reach the fathers' occupational status as an indicator for the MSM. *Secondly*, as it would be assumed in the inverse conventional model, the beliefs about how likely different educational careers would realize at least the mother's status, define the complementary measure of the MSM. *Thirdly*, as suggested by the dominance model, the parent with the highest occupational status and thus the most power to define the family's status position is assumed to set the reference point for the MSM. This was the class of the mother in 27.9 percent of the cases, the one of the father in 27.8 percent, and in the remaining 44.3 percent, the parents had an identical class position. *Fourthly*, the perceived probabilities of status maintenance with respect to the parent with the lowest occupational status in the family is utilized in order to operationalize the inverse dominance model. *Fifthly*, the sex role model assumes that the father provides the reference point for status maintenance for boys and the mothers' the criterion for girls, whereas, *sixthly* in the inverse sex role model, the opposite is assumed to apply.

In the case where no information was available about the subjective probability of educational degrees to reproduce the respective occupational status or about this occupational status itself, either because of nonresponse or because the respective parent has never been in workforce, missing dummies were utilized in order to prevent these cases from being deleted completely from the analyses. The only exception from this rule consists in parents never having been in workforce before in the case of the dominance and inverse dominance model. Here, the only parent with labor-market experience naturally defines the highest as well as the lowest status, and was assumed to define unambiguously the families' occupational status. Equivalent versions of indicators for the families' educational and occupational status have been created according to exactly the same logic, and are always utilized together with the

respective measure for the MSM. The distributions of these different measures for the educational and occupational status are presented in table A1 in the appendix.

Descriptive statistics for the MSM have shown that the respondents' on average assumed a probability of .27 that a lower secondary school degree would maintain the father's status, whereas this probability grew to .60 for an intermediate and to .89 in the case of an upper secondary school degree. The perceived differences in the suitability of the degrees to maintain the mother's status were similar: Respondents attributed on average a probability to maintain status of .26, .67 and .90 to a lower, intermediate and upper secondary school degree, respectively. Thus, as theoretically expected, the parents perceived increasing chances to avoid status demotion when considering higher level educational degrees. For the other versions of the MSM, assuming different mental representations of the families' status position, we found similar differences in the perception of the educational degrees (cf. table A1 in the appendix).

4.3 Status Differences in the Motive for Status Maintenance

It is theoretically expected that the perceived probability of a particular degree to realize status maintenance increases when (a) higher standing educational credentials are considered and (b) these degrees are evaluated from a less advantageous status position. Furthermore, and most importantly, the suitability to avoid status demotion and thus the utility from satisfying the MSM is expected to increase more with a higher level of the degrees when being judged from the perspective of more advanced social status. Thus, besides the fact that the level of degrees and social class exert significant net effects, the theory predicts a positive interaction effect between both factors.

In order to test these hypotheses, we calculated ordinary least square regression analyses, where for each of the six measures for the MSM, assuming different reference points, the parents' evaluations were pooled across the three educational degrees. The resulting data contained 3 (degrees) times 660 (families), and thus a maximum of 1980 observations. However,

due to missing values in the case of the different indicators for the MSM, only between 1792 and 1975 observations were available for the analyses. The values on the respective same versions of the families' social class, defined at the household level, were duplicated within the families. We included dummy variables indicating to which type of educational degree the respective observation belonged. Since the observations are not independent, and thus standard errors tend to be underestimated, the t-statistics in all analyses were calculated using robust standard errors with the families as clusters. In a first series of regression models, the main effect of the type of degrees and social class were analyzed, whereas in a second set, we included the interaction between the two factors into the analysis.

According to the *first* result, as indicated by incremental F-tests presented in table 1, all six indicators for the probability of status maintenance significantly differed between the educational degrees when controlling for the respective version of the families' social class: The F-values ranged between 729.3 (2, 598) in the case of the inverse dominance model and 1100.8 (2, 598) in the case of the dominance model (all: $p \leq .05$). The families' social class proved to exert a significant net effect in the case of all measures as well: Here, we found incremental F-values of a size between 23.8 (3, 647) for the inverse conventional model and 65.5 (3, 659) for the conventional model (all: $p \leq .05$). In particular, and most importantly, the interaction effect between the level of degrees and families' social class proved to be a significant predictor for how likely the educational degrees were perceived to maintain the families' social status: The F-statistics for the interaction parameters ranged between 11.1 (6, 647) in the case of the inverse conventional model and 29.7 (6, 659) in that of the conventional model (all: $p \leq .05$).

-- table 1 about here --

In table 2, we present the regression models analyzing the determinants of the perceived probabilities that educational degrees will preserve the father's and the mother's social status. The regression parameters *firstly* proved that, controlling for the families' social class, the

perceived suitability of the educational degrees to guarantee status maintenance monotonically increases when more ambitious educational degrees are considered. In the case of the fathers' status, an intermediate degree offers a .33 points and an upper secondary school degree an even .62 points higher probability to satisfy the MSM, compared with a lower secondary degree (cf. table 2, model 1.1). Taking the mother's status as a reference point, selecting an intermediate degree is believed to offer a .41 points and an upper secondary school degree a .64 points higher chance to avoid status demotion, compared with the beliefs in the case if the children obtained a lower secondary school degree (cf. table 2, model 2.1). *Secondly*, taking the status of a service-class father as a criterion for successful status maintenance reduced the probability of realizing this aim for all degrees significantly by .34 points, the status of a father with a mixed-class position by .19 points, and that of a father with a qualified-working class position by .15 points, compared with the chances perceived in the case of an unqualified working-class father (cf. table 2, model 1.1). The perceived probabilities for status maintenance were less differentiated according to the mothers' social class: Here, utilizing a service-class position as a reference point had a significantly negative effect on the suitability of educational degrees to satisfy the MSM by .21 and that of a mixed-class position by .12 points, both compared with an unqualified working-class position (cf. table 2, model 2.1). In the case of a qualified or unqualified working-class position, the likelihood of whether the educational degrees would maintain status did not differ.

-- table 2 about here --

Thirdly, we found a positive interaction effect between the level of educational degrees on the one hand and between both the fathers' and the mothers' social class on the other, to explain the perceived probability to maintain the respective social status position (cf. table 2, models 1.2 and 2.2). In order to allow for an interpretation of these interaction effects, we computed predicted values for each combination of level of educational degrees and social class. These values are presented for the fathers assumed to define the reference point for

status maintenance in figure 1. The results have shown that, from the perspective of the service class, the probabilities for maintaining social status differ strongly between the degrees: While an upper secondary degree is expected to offer good chances to realize this aim ($p = .88$), the respondents had not much faith in an intermediate ($p = .46$) and particularly not in a lower secondary school degree ($p = .14$) to avoid intergenerational status demotion. In contrast, when the fathers were from the unskilled working class, an upper secondary school degree was assumed to be similarly instrumental to maintain status ($p = .90$), but they assume already an intermediate ($p = .88$) and a lower secondary school degree ($p = .72$) to offer good chances to avoid downward mobility. The qualified working class and the mixed class were found to be located between the two extremes, with respect to how strong the utility differences were perceived between the educational degrees.

-- figure 1 about here --

The class differences in the perceived effect of education were found to be similar when assuming the mothers' status to define the reference point for the MSM (cf. figure 2). Here as well, assuming their child to have an upper, intermediate or lower secondary school degree had a much stronger effect on the judged probability of status maintenance in the case of service-class mothers ($p = .89$, $p = .57$, $p = .18$), compared with the differences perceived with respect to mothers from the unskilled working class ($p = .85$, $p = .80$, $p = .63$). Thus, consistent with the theoretical predictions, the motivation to select higher educational credentials, as indicated by the differences in the perceived suitability for status maintenance between degrees, proved to increase with the father's and mother's social class position.

-- figure 2 about here --

4.4 Effect of Status Maintenance on Educational Decisions

In this part of our empirical analysis, we *first* tested whether the proposed measure for the families' MSM explains educational decision. *Second*, we wanted to find out whether the ex-

planatory power of this measure differs when assuming different reference points for successful status maintenance. *Third*, we analyzed to what extent the direct effect of the families' status background is explained when the MSM is being controlled. This was done using a series of hierarchical conditional logistical regression models (Ben-Akiva & Lerman, 1994). This method of analysis, often referred to as discrete choice or random utility models, has been developed for empirical applications of decision theories. It is appropriate in our case since the outcome variable consists of the decision among three mutually exclusive alternatives, and the indicator for the MSM is defined by evaluations of each of these options by all respondents. For generic explanatory variables, which are constant across the options and vary across families only, the conditional logistical regression model is a special case of the multinomial logistical regression model. The application of the conditional logistical regression model requires pooled data, as described in section 4.3.

In a first step, we tested whether each of the six versions of indicators for the families' educational and occupational status exert significant net effects on the type of secondary school track, selected by the families. As indicated by incremental likelihood ratio tests, this was the case for the education of the father ($\chi^2(4) = 27.1; p \leq .05$) as well as of the mother ($\chi^2(4) = 44.5; p \leq .05$), for the parent with the higher ($\chi^2(4) = 44.3; p \leq .05$) and lower ($\chi^2(4) = 33.1; p \leq .05$) educational status, and for the one assumed to be more relevant according to the sex role ($\chi^2(4) = 32.3; p \leq .05$) and inverse sex role model ($\chi^2(4) = 39.8; p \leq .05$). Testing for additional occupational status effects, we found that the mother's social class ($\chi^2(6) = 33.7; p \leq .05$), the one of the parent with the higher ($\chi^2(6) = 19.7; p \leq .05$) and lower ($\chi^2(6) = 25.9; p \leq .05$) social status, and the class of the same ($\chi^2(6) = 30.5; p \leq .05$) as well as the opposite ($\chi^2(6) = 24.5; p \leq .05$) sex parent had significant net effects on the educational decision. The net effect of the father's class position was found to be weak and only marginally significant ($\chi^2(6) = 11.9; p > .05$).

In a second series of regression models, we evaluated whether the motive to maintain the families' status exerts a significant effect on the selected type of secondary school. This was done for each of the six versions assuming the reference point for realizing this aim to be determined in different ways, and under statistical control of the direct effects of the respective same version of indicator for the families' educational and occupational status. According to the results of incremental likelihood ratio tests, the indicators for the MSM assuming the reference point to be defined by the father, the mother, the highest and lowest status parent, as well as the same and cross-sex parent, all explained significantly the selection between secondary school tracks (cf. table 3 for the test statistics).

-- table 3 here --

The question is now: Assuming which indicator for the families' status to define the criterion when status maintenance would be realized maximizes the explanatory power of the MSM? As a criterion for answering this question, we utilize the Bayesian Information Criterion (BIC) and the Akaike Information Criterion (AIC) as two penalized fit measures, suitable to compare non-nested models (Akaike, 1974; Raftery, 1995). In table 3, we present the incremental BIC and AIC values for the net effect of the different versions to operationalize the MSM. Please note that smaller values on both measures indicate a stronger loss in model fit when the respective variable is not included into the regression model. According to the results, assuming the father's status to define the reference point for the MSM leads, consistently indicated by both fit measures, to the highest explanatory power for the educational decision (BIC = -7.5; AIC = -.018). The second strongest indicator is the one implied by the inverse dominance model, and thus assuming that the lowest parental status defines the families' criterion for successfully avoiding status demotion (BIC = -6.3; AIC = -.017). On the third rank, but with a greater difference to the second best indicator, we found the indicator for MSM assumed by the inverse sex role model to predict the educational decision (BIC = -4.5; AIC = -.014).

In a next step, we analyzed for each of the three best explaining indicators for the MSM whether adding the respective complementary measure for MSM significantly improves the explanatory power. Please note that, although the resulting great number of parameters are not presented, in all following analyses the respective same versions of indicators for the families' educational and occupational status are controlled. First, we tested for an additional effect of the measure utilizing the mother's status as a reference point when the one assuming the father's is already included in the analysis (cf. table 4, model 3.1). Whereas the MSM related to the father's status remains statistically significant ($\chi^2(1) = 9.8$; $p \leq .05$), the effect of that assuming the mother's status to be the success criterion for avoiding intergenerational downward mobility does not significantly add explanatory power ($\chi^2(1) = 0.5$; $p > .05$). Thus, the modified conventional or individual model, predicting that both parents' status position are relevant for setting the reference point for the MSM, must be regarded to be dominated by the conventional model. Second, we tested for whether the modified dominance model adds predictive power over and above the strong effect we found for the inverse conventional model (cf. table 4, model 3.2). Here, additionally including the MSM with respect to the highest status parent in the family did not prove to be significant ($\chi^2(1) = 0.2$; $p > .05$) when controlling for the MSM, assuming the lowest status parent to define the success criterion for reaching status maintenance ($\chi^2(1) = 5.7$; $p \leq .05$). The third test in this series of regression analyses included the indicators based on the sex role and inverse sex role model into the same regression analysis (cf. table 4, model 3.3). As in the other cases, the measure following the inverse sex role model ($\chi^2(1) = 4.7$; $p \leq .05$), which has already proven to be the better indicator for the MSM in the separate analysis, dominated the one constructed according to the sex role model ($\chi^2(1) = 1.5$; $p > .05$).

The incremental BIC values for the MSM measure assuming the conventional model to represent the families' mental representation of their status position and the second best indicator, taking the inverse dominance model as a basis, were found to be -1.22 units different

(cf. table 3, above). According to conventional criteria, this can be regarded as existing, but weak evidence for the conventional model to predict the true reference point for the MSM (Raftery, 1995). In order to reliably deciding whether assuming the father's rather the lowest status in the family to define the reference point for successful status maintenance, both indicators are simultaneously included into the regression analysis (cf. table 4, model 3.4). According to incremental likelihood ratio tests, the MSM based on the father's status is the stronger, because still significant indicator for the MSM ($\chi^2(1) = 4.1$; $p \leq .05$), while the explanatory power of the second best measure, assuming the lower status parent to set the reference point, has vanished ($\chi^2(1) = 0.7$; $p > .05$).

-- table 4 here --

In table 5, we compare the direct effects of education and social class in the base-line model 4.1 with those observed after controlling for the MSM, assuming the fathers' social status to define the reference point, presented as regression model 4.2. Please note that in the case of education and social class, which are only varying across respondents, but are constant for the choice options, the results from conditional logistic regression analyses are equivalent with those from the multinomial logistic regression model. *Firstly*, in the base-line model, the fathers' social class had a marginally significant net effect ($\chi^2(6) = 11.9$; $p \leq .10$), whereas the direct net effect of education was strong and statistically significant ($\chi^2(4) = 27.1$; $p \leq .05$). The estimated odds-ratios show that the probability of choosing an intermediate instead of a lower secondary school track does neither differ significantly according to the fathers' education nor their social class. However, the odds of selecting an upper instead of a lower secondary school track proved to be by a factor of 7.19 higher in families where the father received an upper secondary school degree, compared with those where the male parent only holds a lower secondary school degree. Furthermore, and net of the effects of the father's education, the odds of selecting an upper instead of a lower secondary school track for the children increased by a factor of 3.37 in the case of fathers from the mixed and by a factor of 5.56 in the

case of fathers from the service class, when both were compared with the decision behavior of families from the class of unqualified workers. *Secondly*, the estimated odds-ratio for the MSM indicated that perceiving an educational degree either as impossible or surely to maintain the father's social status improved the probability of selecting the respective degree by a factor of 2.87 (cf. model 4.2, table 5).

-- table 5 about here --

When controlling for the MSM, the direct effect of both the families' occupational and educational status on the educational decisions was substantially reduced: The effect of the fathers' social class position on the secondary school track which has been selected for the children proved to be half as strong as before and not significant anymore ($\chi^2(6) = 6.3$; $p > .10$), whereas the effect of education was reduced as well, but still exerts a significant net effect on the educational decisions. Furthermore, all odds-ratios, indicating differences in the educational decisions between families with fathers of different education and social class, are considerably reduced. To what degree the MSM explained the class differentiation of educational decision is presented in figure 3. Here, the predicted probabilities for families with different class background to select an upper secondary school track, net of the effect of educational status, are presented for the effect of the MSM being either controlled (square symbols) or not controlled (diamond symbols). Before controlling for the MSM, the probability of selecting an upper secondary school track varied between .76 for service-class families and .58 for families from the unskilled working class. After controlling for the MSM, the probability of the service class to select a higher educational track remained with .75 nearly stable, but the one of the unskilled worker was found to be .63. Thus, whereas the effect of the MSM does not improve the educational prospects of service-class children, a lack of MSM-based motivation for educational investments leads to a disadvantage of a five percentage points lower probability to select a higher educational track in the case of families with working-class background.

-- figure 3 about here --

In figure 4, it is presented to what degree the MSM explains the differentiation of educational decisions according to the families' educational status. Firstly, before controlling for the effect of the MSM (squared symbols), the effect of educational status is found to be stronger, compared with the one of social class: The probability of selecting an upper secondary school track increases from .56 in the case of families where the father held a lower secondary school degree to .81 in the case of those families with an upper secondary school degree. Again, comparing these selection probabilities with those when the MSM has been controlled (diamond symbols) shows that the operation of the MSM does not improve the chances of higher status children, but leads to a disadvantage of those with lower status background: When holding the MSM for all status groups constant, the probability of children from families with an upper secondary school degree is .80 to attend upper secondary school and thus virtually identical with the estimate without controlling for the MSM, whereas children with fathers with only lower secondary school education then have a higher probability of .59 to visit an upper secondary school.

-- figure 4 about here --

5. Summary and Discussion

In this paper, we tested the prediction from different rational-choice theories that the parents' motive to ensure intergenerational status maintenance explains educational decision and the social inequality herein, which is observed practically in all societies. This was done using data from the Mannheim Educational Panel Study (MEPS) about the decisions between secondary school tracks in Germany. We utilized a new measure for how likely respondents assume different educational tracks, when successfully being completed, would lead to an at least as prestigious occupation as the one of the father and mother as an operationalization for the MSM. Another important question was which of the parents' social status defines the ref-

erence point for when educational degrees would ensure status maintenance. We tested for the relative explanatory power of altogether nine different models about how the families' social status may be mentally represented when taking status maintenance into account. The different measures of the MSM are based on (a) the conventional, (b) the inverse conventional, (c) the individual, (d) the dominance, (e) the inverse dominance, (f) the modified dominance, (g) the sex role, (h) the inverse sex role and (i) the modified sex-role models.

In a first step, we tested for whether the theoretically predicted determinants of the MSM, as an important criterion for our measure to be valid, are empirically observed. Accordingly, it is expected that the perceived probability that different educational degrees will ensure the families' status increase with the level of these degrees and decrease when being judged from more favorable status positions. Both factors were significant determinants for the probability with which educational degrees were expected to maintain social status. In particular, the differences between the degrees in their suitability for status maintenance and, thus, the utility perceived for selecting higher educational tracks, are predicted to increase with the parents' status position. This predicted interaction effect between the level of degrees and the families' social class was found to be significant for all measures assuming different reference points for when status maintenance would be reached.

In the second part of our study, we tested whether the MSM explains the decision between an upper secondary school track and less ambitious kinds of secondary school, when the families' educational and occupational status were controlled at the same time. This was found to be the case for all analyzed versions of the MSM. The explanatory power of the different versions proved, however, to be differently strong. As indicated by incremental values of the Bayesian Information Criterion (BIC) and the Akaike Information Criterion (AIC), the best indicators were, in decreasing order of performance, those based on the conventional, the inverse dominance and the inverse sex-role model, where either the father's, the lower status, or

the opposite-sex parents' status is assumed to define the reference point for status maintenance.

For these three superior operationalizations of the MSM, we tested in a next step whether the respective complementary measure, taking the status of the mother, the one of the higher-status parent or the same-sex parents' status as a reference point, exerts an additional net effect on the educational decisions. This was found not to be the case and, thus, we had to reject the individual, the modified dominance and the modified sex-role model as appropriate basis for which reference point is utilized when taking status maintenance into account.

Which of the two measures for the MSM we found to have the strongest explanatory power for educational decisions is the better indicator for the MSM? In order to answer this question, we tested the indicator based on the conventional and the inverse dominance model against each other. The regression results indicated that, although being significant determinants for the educational decisions when submitted separately into the analyses, only the measure assuming the father to define the reference point for status maintenance had a significant net effect in the joint analysis. Thus, although families tend to orient themselves at the lowest status in the family, the father's status more powerfully defines when a particular educational decision is expected to lead to status maintenance.

When interpreting our results, three restrictions have to be kept in mind. *Firstly*, we utilized the beliefs about the suitability of different educational degrees to maintain the fathers' and mothers' social status. However, these beliefs were always reported by the respondents, which were in the fast majority the mothers. Thus, we cannot exclude the possibility that utilizing additionally the beliefs of the respondents' partners and thus in the most cases those of the fathers would improve the predictive power of the MSM. In this case, however, it could be suspected that the effect of the measure assuming the father's status to define the reference point for the MSM on the educational decision would be even stronger, relative to alternative indicators.

Secondly, our measure for the MSM assumes that the families' occupational and not the educational status defines the reference point when seeking to realize status maintenance. This assumption is consistent with the theories underlying the predicted relevance of the MSM. One could, however, suspect that parents are additionally motivated to avoid their children to obtain less education than their own. In case of families with an incongruent educational and occupational status, this would lead to inconsistent reference points for the MSM. Whether the motive to maintain the families' level of education has an additional effect on educational decisions, and whether the occupational or educational status dominates the reference point when being inconsistent, is an empirical question which should be addressed in future research.

Thirdly, our results cannot be simply generalized on the situation in other school systems than the one where the analyzed educational decisions were made. In our study, families decide between secondary school tracks in an institutional setting where parents are not obliged to follow the school recommendation of the elementary schools. This setting entitles parents with a high degree of freedom with respect to educational decisions. In other German states, the parents' preferences are much less relevant for the selected school type, and the MSM can be expected to have less predictive power than observed in our study. Whether this is the case has to be analyzed in future. Furthermore, Turner (1960) introduced the differentiation between systems where either sponsored or contest mobility prevails. The German school system represents clearly a case of sponsored mobility, where students are channeled into separate tracks at an early point in their school careers, and after this, changing between these tracks is highly limited. Thus, it remains an open question to what degree our results about the effects of the MSM can be generalized to school systems where contest mobility is more dominant. When interpreting our results, it has to be kept in mind as well that less than half of the families defining the population were successfully included into our analysis. Although

we do not have a hypothesis in which direction this could have biased our results, a replication with data that is less subject to nonresponse would be highly worthwhile.

References

- Acock, A. C. & Yang, W. S. (1984). Parental Power and Adolescents' Parental Identification. *Journal of Marriage and the Family*, 46, 487-495.
- Akaike, H. (1974). A New Look at the Statistical Model Identification. *IEEE Transactions on Automatic Control*, 19, 716-723.
- Arum, R. (1998). Invested Dollars or Diverted Dreams: The Effect of Resources on Vocational Students' Educational Outcomes. *Sociology of Education*, 71, 130-151.
- Becker, R. (2003). Educational Expansion and Persistent Inequalities of Education. *European Sociological Review*, 19, 1-24.
- Ben-Akiva, M. E. & Lerman, S. R. (1994). *Discrete Choice Analysis: Theory and Application to Travel Demand*. Cambridge, Mass.: MIT Press.
- Breen, R. (1998). The Persistence of Class Origin Inequalities among School Leavers in the Republic of Ireland, 1984-1993*. *British Journal of Sociology*, 49, 275-298.
- Breen, R. & Goldthorpe, J. H. (1997). Explaining Educational Differentials. Towards a Formal Rational Action Theory. *Rationality and Society*, 9, 275-305.
- Breen, R. & Yaish, M. (2006). Testing the Breen-Goldthorpe Model of Educational Decision Making. In S. L. Morgan, D. B. Grusky, & G. S. Fields (Eds.), *Mobility and Inequality. Frontiers of Research in Sociology and Economics*. Stanford: Stanford University Press.
- Conley, D. (2001). Capital for College: Parental Assets and Postsecondary Schooling. *Sociology of Education*, 74, 59-72.
- Davies, R., Heinesen, E., & Holm, A. (2002). The Relative Risk Aversion Hypothesis of Edu-

- educational Choice. *Journal of Population Economics*, 15, 683-713.
- Erikson, R. (1984). Social Class of Men, Women and Families. *Sociology*, 18, 500-514.
- Erikson, R., Goldthorpe, J. H., & Portocarero, L. (1979). Intergenerational Class Mobility in Three Western European Societies: England, France and Sweden. *British Journal of Sociology*, 30, 415-441.
- Erikson, R. & Jonsson, J. O. (1996). Explaining Class Inequality in Education: The Swedish Case. In R. Erikson & J. O. Jonsson (Eds.), *Can Education Be Equalized? The Swedish Case in Comparative Perspective*. Oxford: Westview Press.
- Esping-Andersen, G. (2004). Untying the Gordian Knot of Social Inheritance. *Research in Social Stratification*, 21, 115-138.
- Esser, H. (1999). *Soziologie. Spezielle Grundlagen. Band 1: Situationslogik und Handeln*. Frankfurt a.M.: Campus.
- Gerber, T. P. (2000). Educational Stratification in Contemporary Russia: Stability and Change in the Face of Economic and Institutional Crisis. *Sociology of Education*, 73, 219-246.
- Goldthorpe, J. H. (1983). Women and Class Analysis: In Defence of the Conventional View. *Sociology*, 17, 465-488.
- Goldthorpe, J. H. (2000). *On Sociology. Numbers, Narratives, and the Integration of Research and Theory*. Oxford: Oxford University Press.
- Hansen, M. N. (1997). Social and Economic Inequality in the Educational Career: Do the Effects of Social Background Characteristics Decline? *European Sociological Review*, 13, 305-321.
- Haveman, R. & Wolfe, B. (1995). The Determinants of Children's Attainments: A Review of Methods and Findings. *Journal of Economic Literature*, 33, 1829-1878.
- Haveman, R., Wolfe, B., & Spaulding, J. (1991). Childhood Events and Circumstances Influencing High School Completion. *Demography*, 28, 133-157.
- Johnson, D. (2002). Lifetime Earnings, Discount Rate, Ability and the Demand for Post-

- Compulsory Education in Men in England and Wales. *Bulletin of Economic Research*, 54, 233-247.
- Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47, 263-291.
- Kalmijn, M. (1994). Mother's Occupational Status and Children's Schooling. *American Sociological Review*, 59, 257-275.
- Kane, T. J. (1994). College Entry by Blacks since 1970: The Role of College Costs, Family Background, and the Returns to Education. *The Journal of Political Economy*, 102, 878-911.
- Kivinen, O., Ahola, S., & Hedman, J. (2001). Expanding Education and Improving Odds? Participation in Higher Education in Finland in the 1980s and 1990s. *Acta Sociologica*, 44, 171-181.
- Korupp, S. E., Ganzeboom, H. B. G., & Van Der Lippe, T. (2002). Do Mothers Matter? A Comparison of Models of the influence of Mothers' and Fathers' Educational and Occupational Status on Children's Educational Attainment. *Quality & Quantity*, 36, 17-42.
- Leibowitz, A. (1974). Home Investments in Children. *The Journal of Political Economy*, 82, 111-131.
- Lucas, S. R. (2001). Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects. *American Journal of Sociology*, 106, 1642-1690.
- Luijkx, R., Róbert, P., de Graaf, P. M., & Ganzeboom, H. B. G. (2002). Changes in Status Attainment in Hungary between 1910 and 1989: Trendless Fluctuation or Systematic Change? *European Societies*, 4, 107-140.
- Marks, G. N. & McMillan, J. (2003). Declining Inequality? The Changing Impact of Socio-Economic Background and Ability on Education in Australia. *British Journal of Sociology*, 54, 453-471.
- Murnane, R. J., Maynard, R. A., & Ohls, J. C. (1981). Home Resources and Children's

- Achievement. *The Review of Economics and Statistics*, 63, 369-377.
- Peraita, C. & Pastor, M. (2000). The Primary School Dropout in Spain: The Influence of Family Background and Labor Market Conditions. *Education Economics*, 8, 157-168.
- Raftery, A. E. (1995). Bayesian Model Selection in Social Research. *Sociological Methodology*, 25, 111-163.
- Sieben, I., Huinink, J., & de Graaf, P. M. (2001). Family Background and Sibling Resemblance in Educational Attainment. Trends in Former FRG, the Former GDR, and the Netherlands. *European Sociological Review*, 17, 401-430.
- Sørensen, A. (1994). Women, Family and Class. *Annual Review of Sociology*, 20, 27-47.
- Stocké, V. (in press). Explaining Educational Decision and Effects of Families' Social Class Position: An Empirical Test of the Breen-Goldthorpe Model of Educational Attainment. *European Sociological Review*.
- Turner, R. H. (1960). Sponsored and Contest Mobility and the School System. *American Sociological Review*, 25, 855-867.
- Van de Werfhorst, H. G. & Andersen, R. (2005). Social Background, Credential Inflation and Educational Strategies. *Acta Sociologica*, 48, 321-340.
- Whelan, C. T. & Layte, R. (2002). Late Industrialization and the Increased Merit Selection Hypothesis. Ireland as a Test Case. *European Sociological Review*, 18, 35-50.

TABLES AND FIGURES

Table 1: Incremental F-Tests for Effects of Level of Educational Degree, Social Class, and the Interaction between Both Factors on the Motive for Status Maintenance

	Net Effects of...		
	Level of Degree	Social Class	Level of Degree x Social Class
Model Version			
- Conventional	884.9 (2, 659)*	65.5 (3, 659)*	29.7 (6, 659)*
- Inverse Conventional	946.7 (2, 647)*	23.8 (3, 647)*	11.1 (6, 647)*
- Dominance	1100.8 (2, 598)*	27.8 (3, 598)*	20.9 (6, 598)*
- Inverse Dominance	729.3 (2, 598)*	57.5 (3, 598)*	22.9 (6, 598)*
- Sex Role	894.7 (2, 654)*	28.3 (3, 654)*	18.9 (6, 654)*
- Inverse Sex Role	934.4 (2, 652)*	64.1 (3, 652)*	23.8 (6, 652)*

Significance: * $p \leq .01$

Table 2: Effect of Level of Educational Degrees, Social Class, and Interaction between Both Factors on the Motive for Status Maintenance (Ordinary Least Square Regression Results with households as clusters)

	Father		Mother	
	Model 1.1 B (t)	Model 1.2 B (t)	Model 2.1 B (t)	Model 2.2 B (t)
<i>Educational Degree</i> ^{a)}				
- Intermediate secondary	.33 (27.0)*	.16 (3.3)*	.41 (31.8)*	.17 (1.7)
- Upper secondary	.62 (41.5)*	.18 (3.0)*	.64 (43.1)*	.22 (2.0)*
<i>EGP-Class</i> ^{b)}				
- Service classes	-.34 (-11.7)*	-.58 (-11.4)*	-.21 (- 4.3)*	-.45 (-4.9)*
- Mixed classes	-.19 (- 5.8)*	-.41 (- 7.1)*	-.12 (- 2.4)*	-.37 (-3.9)*
- Qualified workers	-.15 (- 4.4)*	-.30 (- 5.0)*	-.05 (- 1.0)	-.20 (-2.0)*
<i>Interaction: Degree x EGP</i> ^{c)}				
<i>Intermediate secondary x</i>				
- Service classes	--	.16 (3.2)*	--	.23 (2.2)*
- Mixed classes	--	.24 (4.3)*	--	.29 (2.9)*
- Qualified workers	--	.18 (3.2)*	--	.20 (1.9)*
<i>Upper secondary x</i>				
- Service classes	--	.56 (9.0)*	--	.49 (4.2)*
- Mixed classes	--	.44 (6.4)*	--	.44 (3.8)*
- Qualified workers	--	.27 (3.7)*	--	.25 (2.0)*
Constant	.52 (18.7)*	.72 (14.8)*	.41 (8.2)*	.63 (6.9)*
N	1975	1975	1941	1941
R ²	.489	.526	.508	.525

Significance: * $p \leq .05$; Reference categories: ^{a)} lower secondary degree; ^{b)} unqualified workers; ^{c)} lower secondary degree & unqualified workers.

Figure 1: Interaction between Level of Educational Degrees and Fathers' Social Class on the Probability that Degrees Will Satisfy the Motive for Status Maintenance (MSM) with Father's Status as Reference Point (Predicted Probabilities from Regression Model 1.2, table 2)

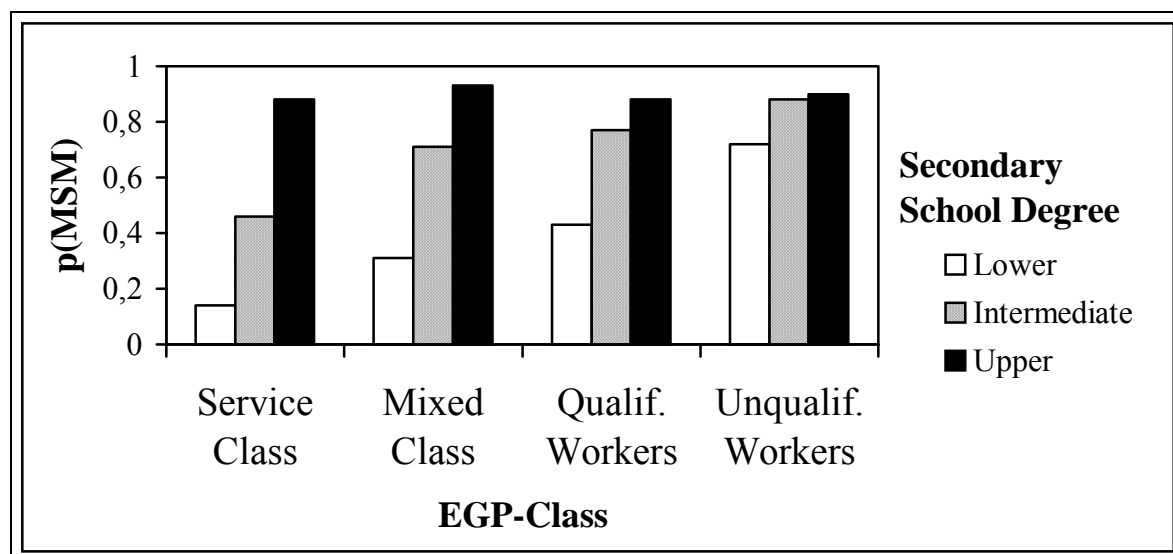


Figure 2: Interaction between Level of Educational Degrees and Mother's Social Class on the Probability that Degrees Will Satisfy the Motive for Status Maintenance (MSM) with Mothers Status as Reference Point (Predicted Probabilities from Regression Model 2.2, table 2)

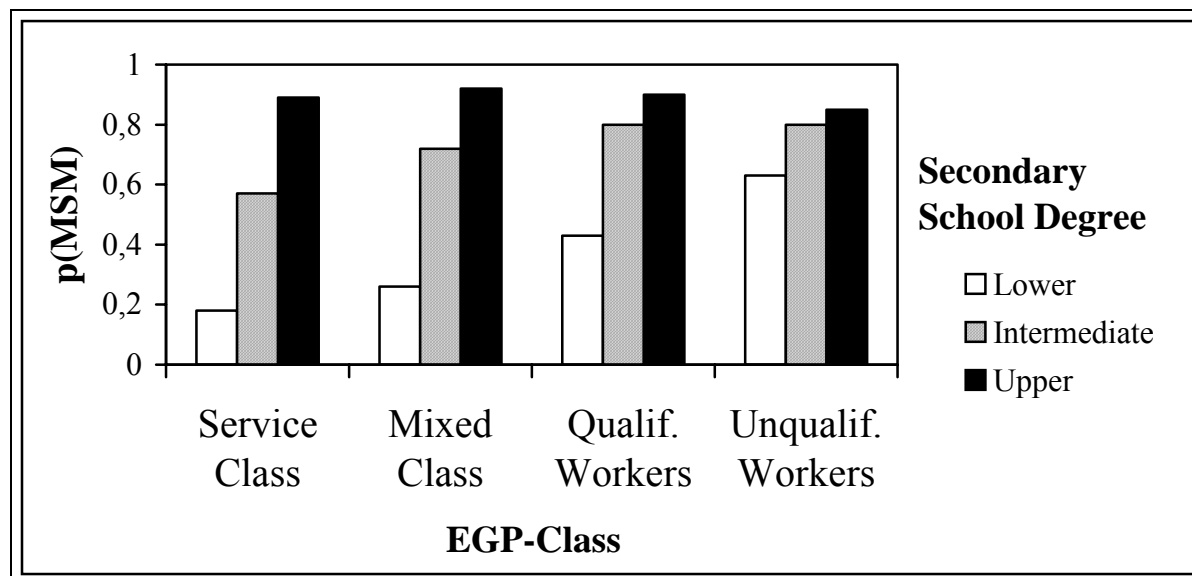


Table 3: Incremental Likelihood-Ratio Tests for Effects of Different Indicators for the Motive for Status Maintenance (MSM) on Educational Decisions (Conditional Logistic Regression Results)

	Incremental LR-Test of MSM			
	-Log-Likelihood Full Model	Log-Likelihood Chi ²	BIC	AIC
Model Version				
- Conventional	-452.1	14.0 (1)*	-7.5	-.018
- Inverse Conventional	-431.8	9.4 (1)*	-2.9	-.011
- Dominance	-437.2	6.2 (1)*	0.3	-.007
- Inverse Dominance	-435.5	12.8 (1)*	-6.3	-.017
- Sex Role	-439.8	9.9 (1)*	-3.4	-.012
- Inverse Sex Role	-442.4	11.0 (1)*	-4.5	-.014

Significance: * $p \leq .01$; BIC = Bayesian Information Criterion; AIC = Akaike Information Criterion.

Table 4: Net Effect of Complementary Indicators for the Motive for Status Maintenance (MSM) on Educational Decisions (Conditional Logistic Regression Results with Same Version of Families' Educational and Occupational Status Controlled)

	Model 3.1 Conventional + Inv. Conventional Model	Model 3.2 Dominance + Inv. Dominance Model	Model 3.3 Sex Role + Inv. Sex Role Model	Model 3.4 Conventional + Inv. Dominance Model
	Odds-Ratio (z)	Odds-Ratio (z)	Odds-Ratio (z)	Odds-Ratio (z)
MSM (Conventional)	2.85 (3.1)*	--	--	2.39 (2.0)*
MSM (Inv. Conventional)	1.30 (0.7)	--	--	--
MSM (Dominance)	--	1.16 (0.4)	--	--
MSM (Inv. Dominance)	--	2.73 (2.4)*	--	1.53 (0.84)
MSM (Sex Role)	--	--	1.55 (1.2)	--
MSM (Inv. Sex Role)	--	--	2.11 (2.1)*	--
Constants:				
- Intermediate Sec. Track	.46 (1.1)	.31 (1.2)	.47 (1.1)	2.01 (1.6)
- Upper Sec. Track	.19 (2.2)*	.11 (1.8)	.27 (1.9)	1.87 (1.4)
N	1980	1980	1980	1980
Log-Likelihood	-413.2	-420.3	-412.1	-431.4
Pseudo-R ²	.430	.420	.432	.405

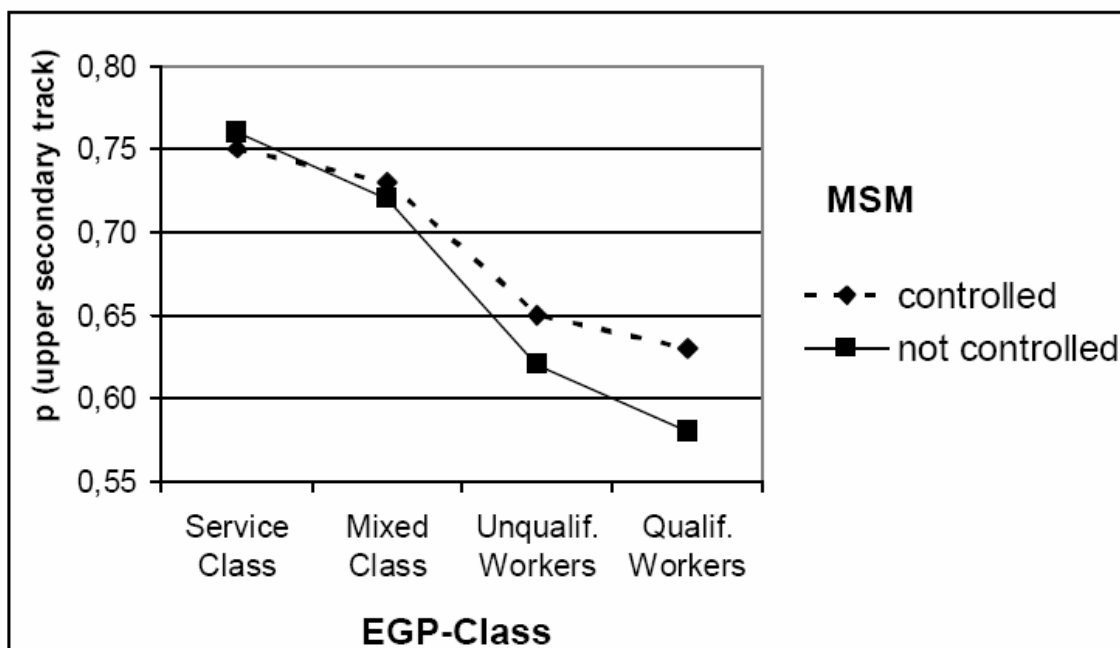
Significance: * $p \leq .05$

Table 5: Effect of Motive for Status Maintenance (MSM) Based on the Conventional Model on Educational Decisions (Odds-Ratios from Conditional Logistic Regression Analyses)

	Model 4.1		Model 4.2	
	Intermediate Second. Track	Upper Second. Track	Intermediate Second. Track	Upper Second. Track
	Odds-Ratio (z)	Odds-Ratio (z)	Odds-Ratio (z)	Odds-Ratio (z)
Father's Education ¹⁾				
- Intermediate Second. Degree	1.54 (0.9)	2.01 (1.5)	1.28 (0.5)	1.64 (1.0)
- Upper Second. Degree	2.45 (1.4)	7.19 (3.1)*	2.33 (1.2)	5.68 (2.7)*
Father's EGP-Class ²⁾				
- Service Class	2.76 (1.5)	5.56 (2.6)*	2.25 (1.2)	3.59 (1.9)*
- Mixed Class	1.99 (1.0)	3.37 (1.8)*	1.62 (0.7)	2.45 (1.4)
- Qualified Workers	1.94 (1.2)	2.08 (1.3)	1.64 (0.4)	1.64 (0.9)
MSM		--		2.87 *
Constant	2.20 (1.8)*	2.14 (1.7)*	2.01 (1.6)	1.92 (1.5)
N		1980		1980
Log-Likelihood		-459.8		-452.1
Pseudo-R ²		.366		.376

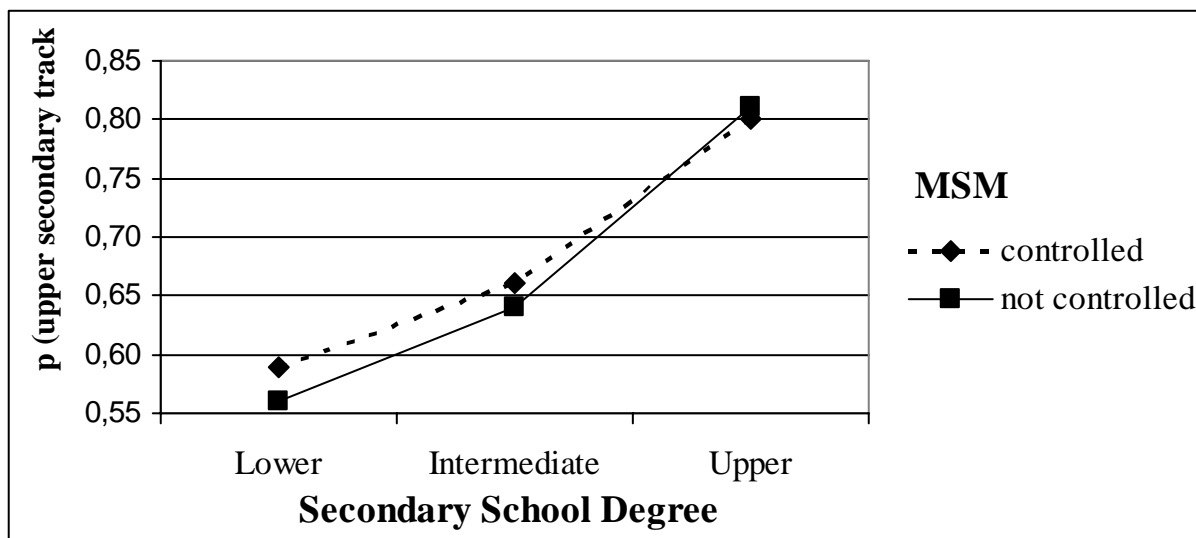
Significance: * $p \leq .05$; Reference Categories: ¹⁾ Lower Secondary School; ²⁾ Unqualified Workers.

Figure 3: Reduction of Effects of Social Class on the Probability of Selecting an Upper Secondary School Track When Controlling for the Motive for Status Maintenance (MSM) (Predicted Probabilities from Conditional Logistic Regression Models 4.1 and 4.2, table 5)



Predicted probabilities represent families with fathers with the respective class position, whereas their education (model 4.1 and 4.2) is held constant on the sample distribution and the MSM (model 4.2) on the sample mean.

Figure 4: Reduction of Effects of Father's Education on the Probability of Selecting an Upper Secondary School Track When Controlling for the Motive for Status Maintenance (MSM) (Predicted Probabilities from Conditional Logistic Regression Models 4.1 and 4.2, table 5)



Predicted probabilities represent families with fathers with the respective educational degrees, whereas social class (model 4.1 and 4.2) is held constant on the sample distribution and the MSM (model 4.2) on the sample mean.

APPENDIX

Table A1: Distribution of Different Indicators for Families' Education, Social Class and Average Motive for Status Maintenance

	Conventional	Inverse Conventional	Dominance	Inverse Dominance	Sex Role	Inverse Sex Role
	% (N)	% (N)	% (N)	% (N)	% (N)	% (N)
EGP-Class						
- Service classes	50.5 (333)	42.1 (278)	62.0 (409)	27.3 (180)	47.1 (311)	45.5 (300)
- Mixed classes	18.0 (119)	36.8 (243)	21.4 (141)	30.9 (204)	29.1 (192)	25.8 (170)
- Qualified workers	18.2 (120)	14.7 (97)	7.0 (46)	24.7 (163)	14.2 (94)	18.6 (123)
- Unqualified workers	7.1 (47)	2.7 (18)	1.1 (7)	8.5 (56)	4.2 (28)	5.6 (37)
- Missing	6.2 (41)	3.6 (24)	8.6 (57)	8.6 (57)	5.3 (35)	4.6 (30)
<i>All</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>
Educational Degree						
- Lower secondary	28.8 (190)	15.3 (101)	9.2 (61)	34.9 (230)	20.3 (134)	23.8 (157)
- Intermediate secondary	24.2 (160)	39.7 (262)	30.2 (199)	33.8 (223)	33.8 (223)	30.2 (199)
- Upper secondary	47.0 (310)	45.0 (297)	60.6 (400)	31.4 (207)	45.9 (303)	46.1 (304)
<i>All</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>	<i>100.0 (660)</i>
	Mean (Std.dev.)	Mean (Std.dev.)	Mean (Std.dev.)	Mean (Std.dev.)	Mean (Std.dev.)	Mean (Std.dev.)
Motive for Status Maintenance						
- Lower secondary	.27 (.35)	.26 (.33)	.24 (.31)	.30 (.35)	.27 (.34)	.27 (.33)
- Intermediate secondary	.60 (.34)	.67 (.29)	.60 (.32)	.67 (.30)	.65 (.31)	.62 (.32)
- Upper secondary	.89 (.19)	.90 (.17)	.90 (.17)	.89 (.19)	.90 (.18)	.90 (.18)

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