

## SONDERFORSCHUNGSBEREICH 504

Rationalitätskonzepte,  
Entscheidungsverhalten und  
ökonomische Modellierung

No. 06-07

**Explaining Secondary Effects of Families' Social  
Class Position. An Empirical Test of the  
Breen-Goldthorpe Model of Educational Attainment**

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July 2006

Stimulating discussions with Hartmut Esser and Meir Yaish are gratefully acknowledged. Financial support from the Deutsche Forschungsgemeinschaft, SFB 504, at the University of Mannheim, is gratefully acknowledged.

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**ABSTRACT**

This article tests whether the Breen-Goldthorpe model offers an empirically valid prediction of educational decisions and a complete explanation of social class hereon. This is done using data from a panel study with families who decided about the secondary school tracks for their children in Germany. We analyzed firstly whether class differences in the costs, success probabilities and returns from status maintenance, which parents associate with educational options, are created by differences in the families' objective opportunities and constraints. Consistent with theoretical expectations, we found class effects on the parents' subjective beliefs and evaluations, which were due to differences in available economic resources and the children's proven academic ability. We tested secondly the prediction that secondary school choice and class differences herein are the result of cost-benefit considerations. Whereas the subjective beliefs about how likely the children are in the position to complete educational degrees and the motive to maintain the families' social status proved to be strong predictors for educational decisions, the anticipated costs of educational investments were found to be irrelevant. Inconsistent with predictions, the direct effects of social class on educational decisions were not explained by the theoretically predicted factors.

## 1. INTRODUCTION

In all industrialized countries, the social class of origin has been found to exert substantial effects on children's educational attainment. At the same time, research has shown considerable between-country differences in the strength of these effects (Ishida et al., 1995). In certain countries, the effect of social background has proven to vary across cohorts as well: For Australia, Germany, Italy and Sweden, educational outcomes of younger birth cohorts have been shown to be less dependent on the parents' class position than it was the case for previous generations (Jonsson and Erikson, 2000; Marks and McMillan, 2003; Müller and Haun, 1994; Shavit and Westerbeek, 1998). More often however, the degree of educational inequality was found to be persistent over time (Brauns, 1999; Breen, 1998; Lindbekk, 1998; Whelan and Layte, 2002; Zhou et al., 1998). Whereas thus the descriptive analysis of educational opportunity has made considerable progress in recent years, the mechanisms of how class origin affects children's educational outcomes are much less well understood.

In the theoretical perspective of Boudon (1974), social origin affects children's educational attainment in two different ways. *Firstly*, the unequal availability of resources in the families, beneficial for learning, is expected to cause differences in academic abilities. Since academic performance is a strong determinant of educational attainment (Björklund et al., 2003; Esping-Andersen, 2004; Feinstein, 2003), these primary effects of social class are expected to explain a substantial part of inequality in educational opportunity. *Secondly*, the class position is expected to directly affect the decision among educational careers, even when the children have the same academic abilities. Such secondary effects have been found in studies where the social origin had a direct effect on educational attainment, after statistically controlling for the effect of the children's school-related abilities (Alexander and Entwisle, 2001; Evans and Schwab, 1995). Secondary effects are assumed to result from class differences in the costs and returns of educational investments (Boudon, 1974).

The Breen-Goldthorpe (BG) model of educational attainment *firstly* claims to provide an explanation for the existence and variability of the above-mentioned macro-level inequalities in educational opportunity (Breen and Goldthorpe, 1997; Goldthorpe, 1996, 1998). This is done by assuming class inequalities in educational outcomes to be the aggregated result of individual actors' instrumentally rational decisions. *Secondly*, the theory proposes a framework for the integration of primary and secondary effects of social class on educational outcomes. Three theoretical constructs jointly represent the core of the BG rational action model: the subjective probability that different educational careers can successfully be completed,

the expected costs when doing so and in particular the returns from educational credential being likely to maintain the families' social class position. Whereas primary effects are assumed to affect educational decisions through the success probability, secondary effects are introduced by structurally created class differences in the costs and returns of education. Since other determinants, particularly class-specific norms and values, are explicitly assumed to be irrelevant, the reproduction of educational stratification is predicted solely to be due to the three theoretical parameters being subject to primary and secondary effects (Goldthorpe 1996)). Thus, differences and similarities as well as the stability and change in the macro-structure of educational stratification are expected to be the consequence of differences and changes in the class differentiation of the theoretical parameter.

The empirical appropriateness of the BG-model micro-theory is not only the precondition for a valid explanation of educational decisions, but for being able to appropriately account for the structure of the inequality of educational opportunity as well. Although recently the theory is increasingly applied in educational sociology, only a few attempts have been undertaken to systematically test its predictions empirically (Becker, 2003; Breen and Yaish, 2006; Need and de Jong, 2000). However, since all these studies rely on secondary analyses of data not collected for the aim of theory testing, the operationalizations of the theoretical constructs are much less than optimal and partly incomplete. Thus, at present the empirical appropriateness of the BG-model is still an open question.

The aim of this paper is to analyze whether the BG-model is a valid and complete theory for explaining educational choices and in particular the commonly observed class inequality in educational opportunity. Since this represents the pivotal determinant for educational outcomes, we utilized longitudinal data about which secondary school track German families selected for their children at the end of primary school. This data was collected explicitly for testing three hypotheses obtained from the BG-model: (a) hypotheses about the effect of subjective costs, success probabilities and beliefs about which educational credentials are necessary for status maintenance on the decision between school tracks, (b) predictions about the objective antecedence conditions of these subjective beliefs and evaluations and (c) the expected mechanism how social class background influences educational decision.

## 2. THE THEORY AND ITS PREDICTIONS

From the perspective of the BG-model, educational outcomes are the consequence of instrumentally rational decisions between institutionally defined educational careers (Breen and Goldthorpe, 1997). Whereas within the framework of other theories, for instance the Wiscon-

sin model of status attainment (Sewell et al., 1969), actors are assumed to be determined by social influence processes in the past, those in the BG-model are predicted to actively integrate expectations about the future consequences of their decisions. Three factors are predicted to be necessary and sufficient to explain the selection among educational careers and social class differences herein.

The *first* determinant are the expected direct and indirect costs when children realize differently demanding educational degrees. Whereas the 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. It is assumed that more demanding and thus long-standing educational degrees are objectively more resource-consuming than those which are less so. Furthermore, because of being less endowed with economic resources, lower class families are expected to experience the same objective expenses as more burdensome than families from a more advantaged social background (Breen and Goldthorpe, 1997; Goldthorpe, 1996). The *second* determinant of educational decisions is how likely the children are expected to successfully complete differently demanding educational careers. Aside from other factors, as for example the parents' ability and willingness to provide support in the case of poor school performance, the children's academic ability is assumed to determine the probability of 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 (Björklund et al., 2003; Esping-Andersen, 2004; Feinstein, 2003). Although the BG-model has been criticized for not providing an explanation for the determinants of primary effects (Nash, 2003), it anyway integrates their consequences for educational decisions systematically into the decision-theoretical framework. Accordingly, class differences in academic abilities are expected to cause analog differentiation in the perceived chances of being able to successfully realize demanding educational degrees in the future. This is assumed to be the mechanism how primary effects contribute to social inequality in educational decisions.

The *third* and most important factor expected to explain class differences in educational attainment is the actors' motive to maintain the family's social status (Breen and Goldthorpe, 1997). Based on ideas from social position theory (Boudon, 1974) and consistent with one of the core assumptions of prospect theory (Kahneman and Tversky, 1979), the families' status position is assumed to define the reference point, relative to which their offspring's possible status attainment is evaluated either as an improvement or deterioration. It is assumed that

families from all social classes are equally strongly motivated to minimize the risk of inter-generational downward mobility, whereas the chance of upward mobility is much less an incentive for educational decisions. Taking the implications of this motive into account requires that parents form beliefs about how likely their children will reach at least their status position, conditional on having realized different educational degrees. This is done on the basis of implicit theories about labor-market functioning and knowledge about the role of education in the status-attainment process. It is assumed that the resulting beliefs about the suitability of educational degrees for maintaining status differ considerably between classes: From the perspective of less privileged classes, already less ambitious degrees are regarded to be relatively likely to avoid status demolition, whereas middle and upper classes need to consider much higher educational credentials to reach the same confidence level. Thus, striving for more education does not add much returns with respect to avoiding downward mobility in the case of lower-class families, whereas this is imperative for families from higher class strata. According to this reasoning, the educational returns from status maintenance and thus incentives to invest in higher education increase continuously with the families' class position.

### 3. PREVIOUS RESEARCH

Several studies analyzed whether factors, which can be regarded as proxy measures for the theoretical parameters assumed to be relevant in the BG-model, explain educational decisions. Empirical studies have *firstly* shown an association between the economic resources being available in the families and the children's educational outcomes. These results provide indirect evidence for the negative effect of perceived costs on educational investments, since the same expenses can be regarded to be more burdensome when resources are becoming scarcer. The families' income is an important determinant for the availability of resources. It has been found with data from the Panel Study of Income Dynamics that the household income in 1984 had a substantial positive effect on the children's completed years of schooling nine years later (Conley, 2001). Similarly, with data from the National Longitudinal Study of Youth, the families' income, net of the students' academic abilities, proved to increase the probability of starting and completing college (Light and Strayer, 2000). However, in other studies, the families' economic resources did not affect educational outcomes. For instance, the decision of families in England and Wales whether to continue education beyond the compulsory level proved not to be affected by the income level, when the parents' social class position was controlled (Micklewright, 1989). Similarly, the probability of adolescents

completing a high-school diploma was found to be independent of the families' income (Arum, 1998).

The number of children in the families can also be expected to influence the level of available economic resources and thus how burdensome educational investments are perceived. Accordingly, the number of siblings has been found to reduce the highest level of education obtained (Van Eijck and De Graaf, 1995), the probability of entering and completing college (Light and Strayer, 2000), the realized years of schooling (Biblarz and Raftery, 1999), the chances of completing high school and entering college (Kalmijn, 1994) as well as the number of post-high school years of schooling (Conley, 2001). Similar results have been found when the parents' class and the household income were statistically controlled: The number of siblings increased the probability of primary school drop-out (Peraita and Pastor, 2000).

An important aspect of the total costs of educational investments is the labor-market income which adolescents could realize during the time spend in school. Whether this factor affects the investment in post-compulsory secondary and university education has been tested with data from the Spanish Household Budget Survey (Beneito et al., 2001). Differences in the opportunity costs for continuing education between actors has been operationalized using sociodemographic differences in the labor-market income of persons who did not make the respective transition, multiplied with the probability of these groups to be in workforce. It has been shown that the resulting differences in opportunity costs predicted differences in the probability of the equivalent groups to continue secondary education: Higher forgone income was associated with a lower probability of continuing post-secondary education. Opportunity costs however proved to be irrelevant for entering university education or not. Other results proved that a decrease in the average wage gap between high-school dropouts and graduates, due to high demand for unskilled work in coal mining, was associated with substantially reduced high-school enrollment rates (Black et al., 2005).

Evidence for educational decisions being influenced by the prospects of children for being able to successfully complete educational degrees comes *firstly* from studies where students' standardized achievement-test scores and grade-point averages have been related to educational outcomes. Accordingly, the tested academic abilities explained the decision to leave school after compulsory schooling in Great Britain (Micklewright, 1989), to enter college after high school in the U.S. (Light and Strayer, 2000), and the number of years American students stayed in fulltime education (Ganzach, 2000). A study with data from the Beginning School Study in Baltimore analyzed the effect of test scores and grade-point averages on the

early dropout during elementary and middle school, under statistical control of the students' attitudes toward school achievement and the parents' academic expectations for their children (Alexander and Entwisle, 2001). At all stages of the school system, except in early elementary school, the dropout risk was significantly predicted by both indicators for the children's future educational prospects.

Very few studies tried to test the prediction from the BG-model that the parents' desire for intergenerational status maintenance is a decisive determinant for educational decisions and a pivotal factor for explaining class inequality in educational attainment. A study with data from Denmark analyzed implications of the motive to maintain status for the decision between different pathways through the educational system after the 9<sup>th</sup> grade of secondary school (Davies et al., 2002). Because of this motive, the children of more educated parents were expected to continue in the school system for a longer time. In particular, the level of parents' education is expected to have a nonlinear effect on the probability to make transitions to more advanced school types: As long as the children have not reached the parents' educational degree in the school system, the propensity to make the next transition strongly increases with the parents' education, and this effect is assumed to become much weaker afterwards. Thus, when status maintenance motivates educational decisions, this kink in the effect of social origin on the transition probability should be observed at different points of the continuum of parental education, depending on the transition under consideration. The empirical analysis has been conducted under statistical control of the children's academic abilities and the families' economic resources. For 5 out of 17 analyses, the hypothesized kind of nonlinearity has been observed. Thus, the empirical evidence about the relevance of the motive to maintain the families' social status is mixed. This may be due to the fact that the BG-model explicitly assumes the parents' social class rather than their educational degrees to provide the reference point for the motive of status maintenance. Because of the educational expansion, which took place in all industrialized societies, reaching the parents' educational level does not necessarily mean to avoid downward mobility with respect to the parents' social status.

In contrast to the aforementioned study, the predictions obtained from the BG-model have been tested, using the fathers' EGP-class position as an appropriate reference point for the motive of status maintenance (Breen and Yaish, 2006). The criterion of this test was the ability to predict the decision between leaving school, choosing a vocational track or an advanced A-level course after having completed O-level of a cohort of children in Britain. The authors estimated the probabilities of how likely different educational degrees lead to certain class

positions using data from an older cohort than the one under consideration, and these conditional probabilities of the sample of decision makers itself. These probabilities were utilized in combination with the adolescents' class origin as a proxy measure for their beliefs about how likely completing different educational tracks will avoid intergenerational downward mobility. The following hypotheses were tested: (1) Under control of the children's academic ability and the families' resources, students from the service class are most likely to enter A-level courses rather than vocational training, followed by those from class VII, and subjects from the classes III, V and VI are least likely to do so; (2) Subjects from the classes III, V and VI are predicted to be most likely to enter the labor market, rather than to continue to A-level, whereas adolescents from class VII and particularly those with service-class background are significantly less likely to do so; (3) All classes prefer a vocational track to directly entering the labor market. The results were mixed: Whereas hypothesis 3 has been empirically confirmed, the remaining two were not. However, the core problem of this study, as the authors emphasize themselves, is the assumption that the actors' subjective beliefs about the educational degrees' suitability to maintain the families' class position is in agreement with the objective probabilities in this respect. Thus, a comprehensive test of the BG-model requires to measure the actors beliefs about how likely different kinds of education lead to at least the families' status position, and to test whether these beliefs actually explain the social class differentiation in educational decisions.

As in the case of the motive of status maintenance, the above-presented evidence for whether subjective success probabilities and costs explain educational decisions is restricted to factors which may determine these subjective beliefs and evaluations. It remains however untested whether the observed effects of these factors indeed operate through the theoretically predicted mechanism. For instance, the observed association between the families' economic resources and educational outcomes may actually not be the consequence of differences in perceived costs, but could as well be due to class-specific norms and values, being correlated with wealth (Hyman, 1966). Furthermore, none of the studies tested the effect of all factors simultaneously, and thus, because of being partly substantially intercorrelated, their net explanatory power for educational attainment remains unclear. For instance, the observed negative effect of poor academic abilities on educational outcomes may actually at least partly be the result of restricted economic resources, which were found to negatively affect the grade-point average (Gutman and Eccles, 1999) and test scores of children (Yeung et al., 2002). Accordingly, strong empirical evidence about whether the BG-model is an appropriate theory

for explaining educational decisions requires direct measurement of the theoretical parameters and testing their net explanatory power.

Two studies are available which made progress in this direction. In a first study with data from the Netherlands, the antecedence conditions of adolescents' beliefs about being able to successfully complete different educational careers and the consequences of these beliefs for educational decisions have been analyzed (Need and de Jong, 2000). The parents' education and the students' grade-point average both proved to affect the subjective probability of school success. These beliefs were however found to be irrelevant for the decision about post-secondary education, when controlling for the significant effect of the grade-point average. This result seems to indicate that the subjective success expectation does not mediate the effect of proven academic abilities on educational decisions.

A second study utilized data from three different states in Germany in order to test for the net effect of different factors regarded as relevant in the BG-model for explaining educational decisions (Becker, 2003). The dependent variable was whether the parents intended to chose either an upper secondary school or a less ambitious school type for their children after elementary school. As an indicator for the perceived *costs* associated with educational investments, it has been utilized (a) how much the parents had to worry about their financial situation, (b) whether a higher school degree for their children would make economies in their spending necessary and (c) how many children lived in the household. The indicators for the children's *probability of successfully realizing* upper secondary education were (a) whether the parents' believed that their children are good students, (b) the children's school marks in mathematics, grammar and German language and (c) the recommendation from the primary school about the secondary school type the children should attend. The *value of status maintenance* was measured by (a) a positive discrepancy between the parents' occupation and the one anticipated for their children, (b) by whether the parents share the educational affinity of the upper classes and (c) by the parents' desire for educational degrees for their children that are higher than their own. The perceived *risk of status decline* was assessed by (a) how much the parents believed education to have an impact on social status, (b) attitudes toward insurmountable barriers between social classes and (c) by whether the parents had a desire for educational degrees lower than their own ones. The results proved that the indicators used for all three theoretical parameters predicted the intention to choose upper secondary school: This was more likely when less cost were anticipated, when the children were assumed to have better chances to complete demanding educational degrees, and when the parents regarded the avoidance of status decline to be more important and more likely.

Although the study by Becker (2003) provides at present probably the best available evidence about the validity of the BG-model, this evidence is far from being conclusive. *Firstly*, because of using data which was not collected for this aim, the operationalization of the theoretical parameters are rather indirect. For instance, it is difficult to see why parents who wanted higher education than their own for their children, or who believed more in the instrumental value of education, should necessarily have done so because of their desire for status maintenance. *Secondly*, the effect of factors predicted from the BG-model was tested only for the planned, not for the real educational decisions. It remains thus unclear to what extent the theory not only explains low-cost intentions, but high-cost behavior as well. *Thirdly*, since the class position of the families was not included into the analysis, the study does not provide evidence for whether the factors predicted in the BG-model explain secondary effects of social class.

#### 4. EMPIRICAL STUDY

##### *4.1 Sample and Method*

We tested the predictions of the BG-model with data from a longitudinal study with families who in 2003 had children in the third grade of one of 48 randomly selected primary schools in Rhineland-Palatinate, Germany. Among the population of 2,186 families in these schools, where the parents were not immigrants of the first generation, altogether 989 and thus 45.2 percent agreed to take part in the personal interview of the first panel wave. A follow-up telephone interview was conducted after the children received the mid-term grade report and shortly before the families had to decide about the secondary school track on which the children should continue after primary school. The third panel wave was conducted at the end of the fourth grade in summer 2005, after the children had to be registered in a particular type of secondary school. Due to item nonresponse and panel attrition, complete data was available for 762 families of the initial sample. The children were on average 10.1 years old when the subsequent type of secondary school had to be chosen. Although children at this age may influence educational decision, we assume that the parents have greater weight in this respect. Thus, in our study, we utilize data provided by that parent who was declared to mainly deal with the school-related issues of the target child. This was in 94.6 percent of the cases the mother and in 5.4 percent the father.

#### 4.2 Operationalization of Theoretical Constructs

In the following, we present those measures that we used in order to operationalize the theoretical parameters assumed in the BG-model to explain the decision between secondary school tracks. Consistent with the theoretical assumptions, we utilized the actors' subjective representations of these parameters. However, we wanted to test also for whether the predicted objective antecedence conditions explain these subjective beliefs and evaluations, as well as social class differences herein. Thus, the indicators for these antecedence conditions are presented in the following as well.

- *Selected type of secondary school:* Families were supposed to decide at the end of the mid-term of the fourth grade about the type of secondary school they wanted their children to continue in the fifth grade. In contrast to other states within Germany, the school recommendation of the primary school is not binding in Rhineland-Palatinate, where the families of our sample lived. Accordingly, they were free to select any type of secondary school for their children. The choice set consisted of three school types, which, when successfully completed, lead 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'), where the children are entitled to enter university at the end of the thirteenth grade. In other available school types, 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 aforementioned degrees can be realized, as well as 'Regionalschule', where either a lower or intermediate secondary school degree can be obtained. According to the parents' reports, 86.1 percent (N=656) had chosen school types which lead to clearly defined degrees, whereas 13.9 percent (N=106) selected either 'Gesamtschule', 'Waldorfschule' or 'Regionalschule'. The latter families were regarded as not having yet decided about the educational degree for their children and were thus excluded from our analysis. Among the 656 families left for the analysis, 4.9 percent selected a lower, 26.2 percent an intermediate and 68.9 percent an upper secondary school for their children.

- *Parental social class:* The parents' class position was operationalized using a four-category EGP-class scheme (Erikson et al., 1979). The following classes were differentiated: I (upper service class), II (lower service class), III, IVab (routine non-manuals and small proprietors), V, VI, VII (supervisors, skilled and unskilled manual workers). When information about the father's and the mother's social class were available, we utilized the highest value

on this dimensions as an indicator for the families' class position. This was in 41.7 percent of the cases the class of the mother, in 35.4 percent the one of the father, and in the remaining 22.9 percent, the parents had an identical class position. The resulting distribution of the parents' highest class position was as follows: I: 25.7 percent, II: 37.9 percent, III, IVab: 29.9 percent, and V, VI, VII: 6.5 percent.

- *Subjectively perceived costs for realizing degrees:* In order to capture differences in the economic costs the parents expect when choosing different secondary school types, they were asked to think about the direct expenditures and the forgone labor-market income when their children would enter and complete each of the available educational tracks. They reported for a lower, an intermediate and an upper secondary school degree, how strongly these degrees would pose a financial burden for the family if the child completed them.<sup>1</sup> The answers were recorded on a response scale from 1 (hardly any financial burden) to 7 (strong financial burden). In order to allow an easy comparison of the effects of the different factors, this, like all other variables, was normalized on a value range between zero and one. The descriptive results have shown that although the parents expected the completion of the degrees to be differently costly, the absolute level of burden was judged to be low (cf. table 1). To complete a lower secondary school degree was judged with a value of on average .17 significantly less burdensome than an intermediate school degree, which received a score of .30 ( $t=19.4$ ,  $df(655)$ ,  $p < 0.01$ ). The costs for realizing an upper secondary degree was judged highest and with a value of .54 significantly more economically burdensome than completing an intermediate degree ( $t=32.2$ ,  $df(655)$ ,  $p < 0.01$ ).

-- table 1 here --

- *Determinants of subjective costs:* The BG-model predicts that families perceive more ambitious and thus more time-consuming educational tracks for their children to be more costly. Furthermore, class differences in the availability of economic resources are expected to explain equivalent differences in the subjectively expected financial burden caused by educational investments. We utilized two factors in order to capture the level of available resources. This was *firstly* the families' available household income, which was computed as the sum of the parents' net labor market and other kinds of income, minus possible regular financial obligations. On average, the families had 2,635 Euros to their disposition. The *second* determinant for available resources was the number of children living in the families. It is expected that the same objective costs for educational investments are more burdensome when the families' economic resources have to be shared among more siblings. The families

participating in our study had on average 2.1 children. We normalized both determinants for economic resources on a value range between 0 and 1, where 1 represents the highest income and number of children observed in our sample (cf. table 1 for descriptive statistics).

- *Subjective probability of successfully completing educational degrees:* The parents were asked to indicate for each educational degree how they perceive the chances that their child will be able to successfully complete it. The responses were recorded on a scale from 1 (very unlikely) to 7 (completely sure).<sup>2</sup> This measure for the probability of success was normalized into a range between 0 (low probability of success) and 1 (high probability of success). The descriptive results have shown that the parents assume their children to have a relatively high probability of .68 of being able to realize the most demanding upper secondary school degree. However, this is regarded to be substantially less likely, compared with the average success probability of .91 and .98 in the case of the intermediate and lower secondary school degrees, respectively (cf. table 2). The difference in the success probability between the upper and intermediate secondary school degrees ( $t=29.0$ ,  $df(655)$ ,  $p < 0.01$ ) as well as the one between the intermediate and lower secondary school degrees ( $t=11.4$ ,  $df(655)$ ,  $p < 0.01$ ) proved to be statistically significant.

-- table 2 here --

- *Determinants of the success probabilities:* In the BG-model, it is expected that parents rely on information about their children's present academic abilities when forming beliefs about the probability of future school success. Two available sources of such information parents may regard as particularly reliable. These are *firstly* the evaluations of their academic performance in different subjects the children regularly receive in form of grades from their teachers. *Secondly*, in the German school system, the primary schools are supposed to recommend the most appropriate type of secondary school for each student. Although this recommendation is not binding in the state where our study took place, parents can be expected to attach particular weight to these recommendations when trying to imagine how likely their children will be able to successfully complete different educational careers. Thus, we utilized the children's marks in German, Mathematics and Social Studies from the midterm-report card of the 4th grade in order to explain the parents' subjective success probability. These marks varied between 1 ('excellent') and 6 ('insufficient') and were first reverse-coded and then normalized on a range between 0 and 1, higher numbers indicating a better school performance. On average, the children in our sample have received favorable evaluations, which ranged between .74 (Mathematics) and .81 (Social Studies), the marks in German taking with .76 a middle position (cf. table 2). We furthermore utilized the type of secondary school

which was recommended by the elementary school as a second antecedence condition for the parents' subjective probability of future school success. The parents received these recommendations together with the midterm-report card of the 4th grade. In our sample, a majority of 60.5 percent of the children were recommended to continue with upper secondary school, whereas 29.7 percent received a recommendation for intermediate secondary school, and only 8.1 percent were supposed to attend not more than a lower secondary school. In 1.7 percent of the cases, the primary school recommended another kind of school.

- *Motive of status maintenance*: In the theoretical perspective of the BG-model, two aspects of the motive of status maintenance have to be differentiated. This is *firstly*, how important the parents regard status maintenance and thus how much effort they are willing to spend in order to realize this aim. *Secondly*, the actors are assumed to have sufficiently clear knowledge about the instrumental value of educational credentials on the labor market and thus about the status-attainment process. This knowledge is the basis for forming expectations about how likely different educational degrees will enable the children to reach an at least as favorable status position as themselves. This subjective probability is assumed to increase (a) when parents are considering more advanced educational degrees and (b) when the same degrees are judged from less favorable class positions.

As an operationalization of the strength of the motive for status maintenance, we utilized the respondents' reports about how much it would bother them if their child reached a less prestigious occupation than their own.<sup>3</sup> The response scale varied between 1 (this would not bother me at all) and 7 (this would bother me very much). The probability that the degrees can successfully realize status maintenance was assessed by asking the parents for each degree in the choice set how likely that degree will enable the children to reach an occupation which is at least as prestigious as their own.<sup>4</sup> The responses ranged between 1 (this is impossible) and 7 (this is absolutely sure). The respondents answered both kinds of questions with respect to their partner's occupation as a reference point as well. When the responses with the two reference points differed, we utilized the responses, consistent with the EGP-classes, with respect to the parent with the highest class position. As in the case of all independent variables, both components of the motive for status maintenance were normalized into a range between 0 (weak motive/low success probability) and 1 (strong motive/high success probability).

Descriptive analyses have shown that the parents reported on average a moderately strong motive to ensure intergenerational status maintenance: The value of this indicator was .32 (cf.

table 3). How likely the different degrees were expected to lead the children to obtain at least the same occupational status has proven to vary substantially between the degrees: With a probability of .24, the parents had on average not much faith in a lower secondary school degree to reach this aim, whereas in case of an intermediate degree, the probability grew to .61 and even to .90 for an upper secondary school degree. All differences in the perceived suitability of the educational credentials proved to be statistically significant (lower vs. intermediate degree:  $t=29.6$ ,  $df(655)$ ; intermediate vs. upper degree:  $t=22.5$ ,  $df(655)$ , both:  $p < 0.01$ ).

-- table 3 here --

#### *4.3 Class Differences in the Theoretical Parameters and Their Antecedence Conditions*

The BG-model predicts that social classes differ in (a) the costs for educational investments, (b) the probability of successfully realizing the educational credentials and (c) the suitability of the degrees to ensure intergenerational status maintenance. These class effects are expected to be completely due to objective class differences in (a) the availability of economic resources, (b) the children's proven academic abilities and (c) the varying reference points when evaluating how likely educational credentials will avoid status demolition. In contrast, how important the parents regard it to avoid downward mobility is expected not to differ according to the class position. Whether these predictions can be empirically confirmed has been tested with a series of OLS-regression analyses. For this analysis, we pooled for each of the three theoretical parameters the parents' evaluation of all three educational degrees. The resulting data contained 3 (educational options) times 656 (families) and thus 1,968 observations, where the values of all household-level variables, which do not vary between the educational degrees, were duplicated within the families. We included dummy variables indicating to which type of educational degree the respective observation belongs. Since the observations are not independent and thus standard errors tend to be underestimated, the t-statistics in all following analyses have been calculated using Huber-White estimators for robust standard errors with the families as clusters (STATA Corporation, 1999: 165 ff.).

In the first step, we analyzed the determinants of economic costs the parents expected in case their children completed the different educational credentials. We thus regressed the judged burden of educational investments on a set of dummy variables indicating on the one hand the families' class position, and a dummy set representing the educational degrees on the other (cf. table 4, model 1.1). The results confirmed *firstly* that the direct and opportunity costs were expected to increase considerably when more advanced educational degrees were

under consideration: As in the bivariate analysis, the differences between all educational degrees proved to be significant (not all tests presented). *Secondly*, controlling for variations between the degrees, we found significant class differences in the expected economic costs ( $F(3, 655)=3.1; p < 0.05$ ). Compared with members of the upper service class (I), all other parents expected a significantly higher economic burden if their children realized the same secondary school degrees. No other contrast between classes proved to be significant (tests not shown). We tested *thirdly* for whether the families' available household income and the number of their children affect how burdensome the parents judged the same educational credentials, and for whether these factors explain the class differential observed in the previous analysis (cf. table 4, model 1.2). Both factors have been found to exert significant net effects on the expected financial burden: Whereas the expected financial burden substantially decreased with more available household income ( $F(1, 655)=22.7; p < 0.01$ ) it increased with the number of children in the families ( $F(1, 655)=12.1; p < 0.01$ ). According to the relative size of the regression parameter, the available income rather than the number of children is the stronger determinant for the costs expected for educational investments. *Fourthly*, after controlling for the objective antecedence conditions of the subjective costs, the parents' class position did not have any direct effect anymore ( $F(3, 655)=0.8; p > 0.05$ ).

-- table 4 here --

In the second step, we analyzed what determines the parents' beliefs about how likely their children will be able to complete the different educational degrees. Here as well, we *firstly* confirmed the result that the success probability decreased when increasingly more ambitious educational degrees were under consideration: All contrasts between the degree dummies were significant (cf. table 4, model 2.1). *Secondly*, the parents' social class proved to have a substantial effect as well ( $F(3, 655)=14.6; p < 0.01$ ): Children from the upper service class (I) were expected to have significantly better chances to successfully complete the educational degrees, compared with all other classes. Additional tests proved that the success probability significantly increased from class to class, when increasingly more favorable class positions were considered. *Thirdly*, as predicted, the type of secondary school recommended by the primary school ( $F(2, 655)=10.6; p < 0.01$ ) and the children's grade points in all three subjects ( $F(2, 655)=12.5; p < 0.01$ ) exerted strong and significant net effects on how likely the children were expected to successfully complete the educational degrees: The more high-standing the recommended school track, and the more favorable marks the children received in German, Mathematics and Social Studies, the more confident parents were about the

school success in the future (cf. table 4, model 2.2). *Fourthly*, after controlling for the objective determinants of the parents' success probability, the direct effect of the families' social class was strongly reduced to a marginally significant level, and only parents from the class of routine non-manuals and small proprietors (III, IVab) had a significantly lower success expectation than the upper service class ( $F(3, 655)=2.3; p > 0.05$ ).

In the third step, we analyzed whether the importance the parents attached to status maintenance is, as predicted from the BG-model, unrelated to social class. Furthermore, the hypothesis was tested that considering higher degrees and having a lower class position, as well as the interaction between both factors, explain how likely the parents associate a successful avoidance of intergenerational downward mobility with the respective educational credentials. The results *firstly* have shown that the parents' social class has a weak, but nevertheless statistically significant effect on their motivation to maintain social status ( $F(3, 652)=4.6; p < 0.05$ ) (cf. table 5, model 3). Compared with the upper service class, subjects from all other class backgrounds had a stronger motive of status maintenance, and this difference proved to be significant for the contrast with the class of routine non-manual and small proprietors (III, IVab). *Secondly*, how likely parents regarded status maintenance differed significantly between the degrees ( $F(2, 655)=1076.0; p < 0.01$ ) and according to the families' social class ( $F(3, 655)=48.8; p < 0.01$ ) (cf. table 5, model 4.1). The presented and additional analyses have confirmed that the perceived chances for status maintenance significantly increases when higher educational credentials are considered. Furthermore, compared with parents from the upper service class, all others perceived the same educational degrees to be significantly more instrumental for maintaining social status. Except for those between the classes of routine non-manuals and small proprietors (III, IVab) and the working class (V, VI, VII), all class differences in the perceived suitability of the degrees were significant. *Thirdly*, the interaction between social class and the differently high-standing educational degrees proved to be statistically significant as well ( $F(6, 655)=24.2; p < 0.01$ ) (cf. table 5, model 4.2).

-- table 5 here --

In order to allow for an easy interpretation of this effect, we computed predicted probabilities for each combination of class position and educational degrees (cf. figure 1). The results have shown that, from the perspective of the upper service class (I), the probabilities for status maintenance differed strongly between the educational degrees: Whereas an upper secondary degree is expected to offer good chances to guarantee status maintenance ( $p=0.86$ ), an intermediate ( $p=0.38$ ) and particularly a lower secondary school degree ( $p=0.12$ ) are not assumed to be likely to realize this aim. Whereas parents with working-class background (V,

VI, VII) attached a similarly high probability of maintaining status to an upper secondary school degree ( $p=0.83$ ), they assumed an intermediate ( $p=0.77$ ) and particularly a lower secondary school degree ( $p=0.55$ ) to offer already fair chances to avoid downward mobility. Thus, the motivation to select higher educational credentials, as indicated by the *differences* in the perceived suitability for maintaining status between the educational degrees, proved to increase with the families' class position.

-- figure 1 here --

#### *4.4 Determinants of Decisions between Secondary School Tracks*

In the last part of our empirical analysis, we tested whether the factors predicted in the BG-model explain the decision between secondary school tracks, and particularly the commonly observed effects of social origin hereon. This was done using a series of hierarchical conditional logit models (Ben-Akiva and Lerman, 1994). This method of analysis, often referred to as discrete choice or random utility models, has been developed for empirical applications of rational decision theories. This method is especially appropriate in our case since the outcome variable consists of the decision among three mutually exclusive decision options, and the explanatory variables are defined by evaluations of each of these options by all respondents. In the framework of conditional logit models, it is furthermore possible to include generic explanatory variables into the analysis, which are constant across the options and varies across respondents only. In the case of these variables, as the families' social class, the conditional logit model is a special case of the multinomial logit model. The application of the conditional logit model requires the data to be reorganized as described in section 4.2. Thus, the pooled data, consisting out of 1,968 observations, has been used for the following analyses.

In the first step, we analyzed whether the families' social class affects their decisions between educational tracks (cf. table 6, model 5). As it has been consistently found in many other studies, our results indicated that the parents' social class significantly affects the decision between educational tracks ( $\chi^2(6)=84.1$ ;  $p < 0.01$ ). The multinomial logit regression parameter with the lower secondary school as reference outcome indicate that parents from the working class (V, VI, VII) significantly less likely selected an intermediate instead of a lower secondary school track, compared with the upper service class (I), which represents the reference category in the analyses. Additional analyses (results not presented) proved that all other social classes, which do not differ from each other in this respect, have a significantly higher probability to make this transition. The propensity to select an upper instead of a lower

secondary school track showed a greater class heterogeneity: Here, the odds of the upper and lower service classes (I, II), which do not differ from each other, to make this transition is significantly higher than the one of all other classes. Parents from the class of routine non-manuals and small proprietors (III, IVab), although less inclined to chose the upper secondary school track than the two service classes, are significantly more likely to make this transition than the working class (V, VI, VII).

-- table 6 here --

In a second step, we tested whether the parents took the economic costs incurred for educational investments into consideration when selecting between educational tracks (cf. table 6, model 6). The results proved that the economic burden expected when realizing different educational degrees did not play any role for the educational decisions: The odds-ratio above one indicates an effect into the wrong direction, which is however far from being statistically significant.

After removing the irrelevant cost variable from the regression equation, we tested in a third step whether the parents' beliefs about how likely their children will be able to successfully complete the different degrees influenced their decisions (cf. table 6, model 7). This was found to be very strongly the case: The odds-ratio for this factor is significantly different from one. According to the results, a one-unit change in the success probability, this is comparing a child where the parents regarded school success as impossible with one where this was expected to be sure, increases the chances to select this degree by a factor of over 308.

In the fourth and last step, we tested the core prediction from the BG-model that the strength of the motive of status maintenance and particularly the perceived suitability of the degrees to realize this aim, are important predictors for the decision between secondary school tracks (cf. table 6, model 8). The results have shown *firstly* that how important parents regarded an avoidance of status demolition for their children had neither an effect on the probability to select an intermediate instead of a lower secondary school track, nor on that to decide for an upper instead of a lower secondary school. *Secondly*, how promising the parents perceived the school degrees with respect to ensure their children to reach at least their own status level proved to be an important determinant for whether a particular school type has been chosen. Whether parents perceived that an educational degree will surely not or with certainty satisfy their motive for status maintenance improved the chances that the respective school track has been selected by a factor of 3.44.

A last and important result is that, although we controlled for the factors which are predicted in the BG-model to explain the secondary effects of social class on educational deci-

sions in model 8, the net effect of EGP was still strong and statistically significant ( $\chi^2(6)=45.3$ ;  $p < 0.01$ ). Only the already at the beginning relatively weak class differentiation in making the transition from the lower to the intermediate secondary school track has been explained. The significant differences between classes in the probability of choosing a lower or upper secondary school are exactly as they were observed when the EGP-class scheme was alone entered into the regression equation in model 4 (cf. table 6, model 8).

## 5. SUMMARY AND DISCUSSION

In this paper, we tested predictions obtained from the Breen-Goldthorpe model of educational attainment about which subjective beliefs and evaluations explain the selection between secondary school tracks in Germany. These factors are the anticipated costs when completing educational credentials, the subjective probability of successfully doing so and the returns from educational degrees to maintain the families' social status. In particular, we tested whether the secondary effects of social class on the educational choices can be explained, as theoretically predicted, through class differences in the explanatory factors. Furthermore, the BG-model predicts that class differences in the subjective representation of the theoretical parameters are due to objective differences in the availability of economic resources, the children's proven ability and the parents' objective class location.

Our results have *firstly* shown that the financial burden from direct and opportunity costs which the actors associate with realizing educational degrees differed according to the families' class position: Parents from the upper service class perceived completing the same degrees to be less burdensome than others. This effect proved to be completely due to class differences in the available family income and the number of children in the families. Both factors had significant net effects on the anticipated burden of educational investments. We found *secondly* that the subjective probability of being able to successfully complete educational degrees strongly increased with the families' social class. These differences were however nearly completely explained by the children's grade points and the secondary school type they were recommended from the primary school, both indicating their proven academic abilities. *Thirdly*, and consistent with the BG-model as well, the parents were found to care about whether their children will reach at least the same occupational status as their own. However, inconsistent with the assumption that this motive is equally strong in all social classes, members from the classes of the routine non-manuals and small proprietors attached significantly greater importance to this goal. *Fourthly*, the parents perceived on average in-

creasingly higher chances for realizing status maintenance, when they judged more high standing educational degrees. How strongly the degrees were perceived to differ in their suitability to maintain the families' social status varied substantially between the social classes: These differences and thus the incentives to select more ambitious educational tracks grew when the parents had increasingly higher class positions.

With respect to whether the parents were influenced by instrumentally rational considerations when choosing educational tracks for their children, we found mixed evidence. *Firstly*, how likely it was believed that the children will be able to successfully complete the educational tracks and the chances the resulting degrees would offer to exclude intergenerational downward mobility, both had strong and significant net effects on the decisions between secondary school tracks. In contrast, how much economic burden the parents expected when their children would realize different degrees was completely irrelevant for which educational track has been selected. Thus, higher anticipated costs are unlikely to be the mechanism how insufficient economic resources (Conley, 2001; Light and Strayer, 2000) and a higher number of siblings (Biblarz and Raftery, 1999; Van Eijck and De Graaf, 1995) affect educational outcomes. *Secondly*, we were not able to confirm the important claim of the BG-model that class differences in the determinants of rational educational decisions explain the well documented effects of social class on educational outcomes. We found only a slight reduction in the effects of the parents' class position on the decision between secondary school tracks, when controlling for the explanatory factors. The significant effects of class on secondary school choices remained however essentially unaltered.

As a conclusion, the BG-model has proven to be empirically valid in assuming that the parents' desire to avoid that their children obtain a less favorable class positions than their own, is an important determinant of educational decisions. In introducing these social returns, the theory offers an important extension of human capital theory, where only economic returns to education are regarded to be relevant (Becker, 1964). Our negative results about the relevance of economic costs for the decision among secondary school tracks suggest that at least for this educational decision, the different endowment with financial resources is not the reason for inequality in educational opportunity. Thus, in the further development of the theory, it seems to be worthwhile to extend the concept of costs into the direction of kinds of burden caused by obtaining higher education, which transcends the financial dimension. The maybe most problematic conclusion for the BG-model from our results is that the theory falls short of explaining the secondary effects of social class on educational decisions. Although the predicted objective class differences in opportunities and constraints explained the class dif-

ferentiation in the subjective parameter, the effects of the children's social background on their educational careers are obviously results from more than rational decision making. Thus, although the BG-model can be regarded in many of its predictions as empirically valid in explaining educational decisions, the theory must be regarded as incomplete in explaining the total effect of social class on educational attainment.

In the present paper, we utilized panel data, where the indicators for the hypothesized determinants of educational decisions were collected before these decision had to be made. This design was chosen in order to avoid the problem encountered in cross-sectional studies to determine whether an observed association is due to a causal effect of the antecedence condition on the educational outcome, or whether respondents ex post rationalized their decision behavior. However, we cannot exclude the possibility that some families already reached an anticipatory decision about their children's secondary school track at the time they reported their subjective beliefs and evaluations about the educational options.

Our study analyzed the determinants of secondary school choices in a school system where the parents are not obliged to follow the school recommendation of the elementary schools. This institutional setting provides the parents with a high freedom of choice. In other school systems, the parents' will may be much less relevant for the finally selected type of secondary school, and the factors predicted in the BG-model can be expected to have less predictive power than observed in our study. Whether this is the case has to be answered in future research. Furthermore, Turner (1960) introduced the differentiation between school systems where either sponsored or contest mobility prevails. The German school system represents clearly a case of sponsored mobility, where the students are channeled at an early point in their school careers into separate tracks, and after this, changing between these tracks is highly limited. It remains thus an open question to what degree our results about the validity of the BG-model can be generalized to school systems where contest mobility is dominant.

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## NOTES

<sup>1</sup> Question wording: 'As long your child visits school, there are necessary expenditures, as for example for books and other school materials. Furthermore, your child cannot earn money and will thus be unable to contribute to its own subsistence. How do you evaluate this burden when your child would realize the following school degrees? (1) To what degree would a lower secondary school degree cause a financial burden for you?; (b) And how strong would the financial burden be in the case of a upper secondary school degree?; (c) And which burden would you expect in the case of a upper secondary school degree?'

<sup>2</sup> Question wording: 'If you take your child's present school achievements and its development in the last years into account, what do you believe is the chance that your child will be able to successfully complete the following degrees? (a) How is the chance that your child will be able to complete a lower secondary school degree? (b) And how are the chances for an intermediate secondary school degree? (c) And how are those for a upper secondary school degree?'

<sup>3</sup> Question wording: 'For many parents the occupational future of their children is in particular important. Would you please tell me how strongly it would bother you if your child would reach a less prestigious occupation than yourself.'

<sup>4</sup> Question wording: '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 did reach? (1) How likely will your child with a lower secondary school degree reach an at least as prestigious occupation as you? (2) And how likely will this be the case with an intermediate secondary school degree? (3) And how likely will your child with an upper secondary school degree reach an at least as prestigious occupation as you?'

## TABLES AND FIGURES

Table 1: Descriptive Statistics for the Subjective Costs of Educational Degrees and Its Objective Antecedence Conditions

	Min. / Max.	Mean	Std.
<i>Subjective Costs</i> <sup>a)</sup>			
- Lower Secondary School Degree ('Hauptschulabschluss')	0 / 1	.17	.23
- Intermediate Secondary School Degree ('Realschulabschluss')	0 / 1	.30	.26
- Upper Secondary School Degree ('Abitur')	0 / 1	.54	.30
<i>Available Household Income</i>	0 / 1	.23	.14
<i>Number of Children in Household</i>	0 / 1	.23	.16

N=656; <sup>a)</sup> Values between 0 'low costs' and 1 'high costs'.

Table 2: Descriptive Statistics for the Subjective Probability of Successfully Realizing Educational Degrees and Its Objective Antecedence Conditions

	Min. / Max.	Mean	Std.
<i>Probability of Successfully Realizing Degrees</i> <sup>a)</sup>			
- Lower Secondary School Degree ('Hauptschulabschluss')	0 / 1	.98	.11
- Intermediate Secondary School Degree ('Realschulabschluss')	0 / 1	.91	.16
- Upper Secondary School Degree ('Abitur')	0 / 1	.68	.24
<i>Grade Points in Midterm-Report Card of 4<sup>th</sup> Grade</i> <sup>b)</sup>			
- Mathematics	0 / 1	.74	.17
- German Language	.2 / 1	.76	.15
- Social Science	.2 / 1	.81	.15
- Grade-Point Average across the Subjects	.3 / 1	.77	.13
<i>School Recommendation of Primary School</i>			
- Lower Secondary School ('Hauptschule')	0 / 1	.08	.27
- Intermediate Secondary School ('Realschule')	0 / 1	.30	.46
- Upper Secondary School ('Gymnasium')	0 / 1	.61	.49

N=656; <sup>a)</sup> Values between 0 'low success probability' and 1 'high success probability'; <sup>b)</sup> Values between 0 'insufficient' and 1 'excellent'.

Table 3: Descriptive Statistics for the Importance of Status Maintenance and the Perceived Suitability of Educational Degrees to Realize this Aim

	Min. / Max.	Mean	Std.
<i>Importance of Status Maintenance</i> <sup>a)</sup>			
	0 / 1	.32	.30
<i>Appropriateness of Degrees for Status Maintenance</i> <sup>b)</sup>			
- Lower Secondary School Degree ('Hauptschulabschluss')	0 / 1	.24	.32
- Intermediate Secondary School Degree ('Realschulabschluss')	0 / 1	.61	.33
- Upper Secondary School Degree ('Abitur')	0 / 1	.90	.17

N=656; <sup>a)</sup> Values between 0 'not important' and 1 'very important'; <sup>b)</sup> Values between 0 'status maintenance impossible' and 1 'status maintenance sure'.

Table 4: Determinants of Subjective Costs and Success Probabilities (OLS-Analysis with Households as Clusters)

	Model 1.1 Subjective Costs B (t)	Model 1.2 Subjective Costs B (t)	Model 2.1 Success Probability B (t)	Model 2.2 Success Probability B (t)
<i>Educational Degrees</i> <sup>a)</sup>				
- Intermediate Secondary School Degree	.13(19.4)**	.13(19.4)**	-.07(-11.4)**	-.07(-11.3)**
- Upper Secondary School Degree	.37(33.7)**	.37(33.7)**	-.30(-29.9)**	-.30(-29.9)**
<i>Highest EGP-Class in Family</i> <sup>b)</sup>				
- II (Lower Service Class)	.05( 2.2)**	.02( 1.0)	-.04(-3.4)**	-.01(-1.5)
- III/ IVab (Routine Non-Manual/Small Propr.)	.07( 2.8)**	.04( 1.5)	-.07(-5.8)**	-.02(-2.3)**
- V,VI,VII (Workers)	.08( 1.7)*	.03( 0.7)	-.15(-3.8)**	-.04(-1.4)
<i>Antecedence Conditions</i>				
Available Household Income	--	-.30(-4.8)**	--	--
Number of Children in Household	--	.20( 3.5)**	--	--
<i>Grade Points (Midterm 4th Grade)</i>				
- Mathematics	--	--	--	.09( 2.5)**
- German Language	--	--	--	.12( 2.6)**
- Social Studies	--	--	--	.15( 3.8)**
<i>School Recommendation of Primary School</i> <sup>c)</sup>				
- Intermediate Secondary School ('Realschule')	--	--	--	.11( 4.2)**
- Upper Secondary School ('Gymnasium')	--	--	--	.14( 4.6)**
Constant	.13( 7.9)**	.18( 6.1)**	1.0(130)**	.59(14.6)**
Adjusted R-Squared	.25	.28	.36	.47
F-Overall	247.9**	189.2**	201.4**	110.0**
Observations	1968	1968	1968	1968
Number of Clusters	656	656	656	656

Significance: \*  $p \leq 0.1$ , \*\*  $p \leq 0.05$ ; Reference Categories: <sup>a)</sup> Lower Secondary School Degree;

<sup>b)</sup> I (Upper Service Class); <sup>c)</sup> Lower Secondary School ('Hauptschule').

Table 5: Determinants of Perceived Importance of Status Maintenance and the Educational Degrees' Suitability for Status Maintenance (OLS-Analysis, in models 4.1-4.2 with Households as Clusters)

	Model 3 Importance of Status Maintenance	Model 4.1 Suitability of Degrees for Status Maintenance	Model 4.2 Suitability of Degrees for Status Maintenance
	B (t)	B (t)	B (t)
Educational Degrees <sup>a)</sup>			
- Intermediate Secondary School Degree	--	.37(29.6)**	.26(13.5)**
- Upper Secondary School Degree	--	.66(46.0)**	.74(36.6)**
EGP-Class (Highest Class in Family) <sup>b)</sup>			
- II (Lower Service Class)	.04( 1.3)	.13( 7.1)**	.08( 3.1)**
- III/ IVab (Routine Non-Manual/Small Propr.)	.11( 3.6)**	.22(11.5)**	.22( 7.1)**
- V,VI,VII (Workers)	.08( 1.5)	.26( 6.5)**	.43( 6.4)**
Educational Degrees x EGP-Class <sup>c)</sup>			
Intermediate Secondary School Degree x			
- II (Lower Service Class)	--	--	.17( 6.3)**
- III/ IVab (Routine Non-Manual/Small Propr.)	--	--	.16( 5.1)**
- V,VI,VII (Workers)	--	--	-.04( -0.6)
Upper Secondary School Degree x			
- II (Lower Service Class)	--	--	-.02( -0.7)
- III/ IVab (Routine Non-Manual/Small Propr.)	--	--	-.16( -4.5)**
- V,VI,VII (Workers)	--	--	-.46( -5.4)**
Constant	.28(12.6)**	.11( 7.0)**	.12( 7.1)**
Adjusted R-Squared	.02	.53	.55
F-Overall	4.6**	508.8**	296.5**
Observations	656	1968	1968
Number of Clusters	--	656	656

Significance: \*  $p \leq 0.1$ , \*\*  $p \leq 0.05$ ; Reference Categories: <sup>a)</sup> Lower Secondary School Degree; <sup>b)</sup> I (Upper Service Class); <sup>c)</sup> Lower Secondary School Degree & I (Upper Service Class).

Figure 1: Interaction between School Degrees and Parents' Social Class on Probability that Degrees Lead to Status Maintenance (Predicted Values from Regression Model 4.2)

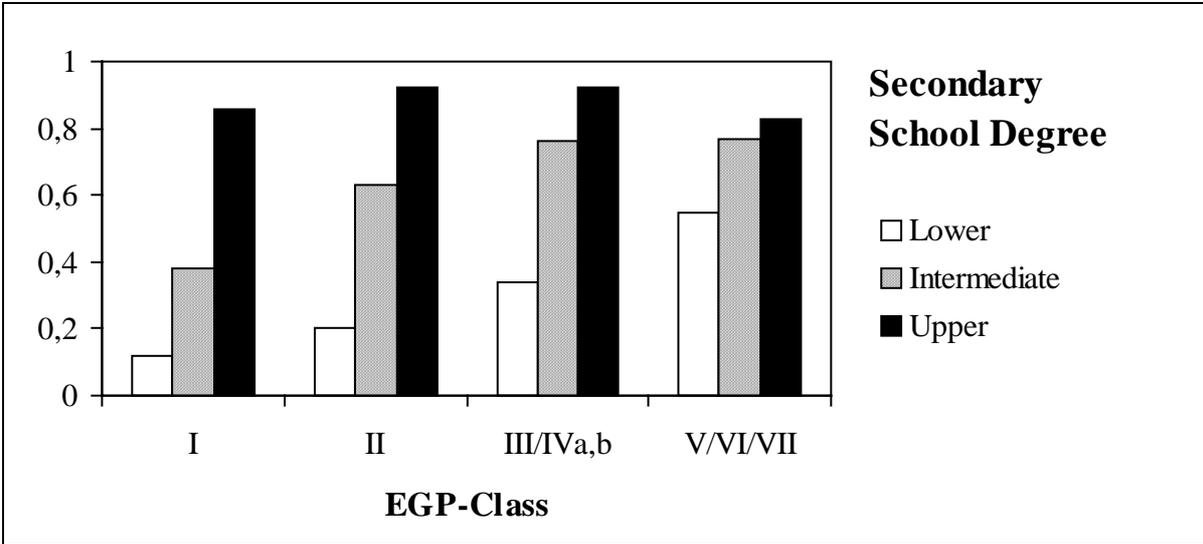


Table 6: Theoretically Predicted Determinants of Selected Type of Secondary School (Conditional Logistic Regression Analysis)

	Model 5	Model 6	Model 7	Model 8
	Odds Ratio (z)	Odds Ratio (z)	Odds Ratio (z)	Odds Ratio (z)
<i>Intermediate vs. Lower Secondary School</i>				
EGP-Class <sup>a)</sup>				
- II (Lower Service Class)	1.22( 0.23)	1.21( 0.23)	1.73( 0.62)	1.56( 0.50)
- III/ IVab (Routine Non-Manual/Small Propr.)	.60(-0.65)	.60(-0.65)	.84(-0.21)	.79(-0.29)
- V,VI,VII (Workers)	.22(-1.76)*	.22(-1.76)*	.35(-1.19)	.44(-0.90)
Constant	8.50( 2.86)**	8.48( 2.86)**	14.1( 3.46)**	10.3( 2.99)**
<i>Upper vs. Lower Secondary School</i>				
EGP-Class <sup>a)</sup>				
- II (Lower Service Class)	.36(-1.25)	.36(-1.25)	.47(-0.89)	.52(-0.77)
- III/ IVab (Routine Non-Manual/Small Propr.)	.08(-3.26)**	.08(-3.26)**	.12(-2.72)**	.15(-2.37)**
- V,VI,VII (Workers)	.01(-5.08)**	.01(-5.08)**	.02(-4.60)**	.03(-3.85)**
Constant	82.0( 6.19)**	81.5( 6.07)**	611.0( 8.27)**	268.4( 6.87)**
<i>Theoretical Parameters</i>				
Subjective Costs	--	1.02( 0.05)	--	--
Subjective Probability of Success	--	--	308.6(10.6)**	267.7(10.2)**
Motive of Status Maintenance				
- Importance (Intermediate vs. Lower Sec. School) <sup>a)</sup>	--	--	--	.72(-0.52)
- Importance (Upper vs. Lower Sec. School) <sup>a)</sup>	--	--	--	.66(-0.65)
- Perceived Suitability of Degrees	--	--	--	3.44( 3.74)**
McFadden's R-Squared	.38	.38	.49	.50
Log-Likelihood	-444.3	-444.3	-371.1	-363.4
Observations (Number of Households)	1968 (656)	1968 (656)	1968 (656)	1968 (656)

Significance: \*  $p \leq 0.1$ , \*\*  $p \leq 0.05$ ; Reference Categories: <sup>a)</sup> I (Upper Service Class).

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