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Four Field-Related Educational Resources and Their Impact on Labor, Consumption, and Sociopolitical Orientation

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In modern societies, understanding the role of education in social inequality requires more than the study of the level of education attained. Attention should also be paid to the field of study in which people are educated. The authors propose that fields of study supply four types of resources to students: cultural, economic, communicative, and technical. Drawing on data from a nationally representative Dutch survey, they developed scales that measure the prevalence of these four types of resources across 11 fields of study. These scales are related to a wide range of variables in three domains: the labor market, consumption patterns, and sociopolitical orientations. Controlling for level of education, individuals who obtained many cultural resources more often participate in highbrow culture and attain a high cultural occupational status. Individuals who were trained in fields that provide economic resources are more materialistic and conservative in their behavior and attain high economic-status jobs. Those whose field of study attended to communicative qualities are more liberal in their sociopolitical orientation and participate more often in voluntary organizations. Technically educated people tend to have low occupational-status jobs and lifestyle preferences directly associated with their technical skills.

In studying the impact of education on labor market outcomes, leisure behavior, or norms and values, is it sufficient to distinguish the more educated from the less educated, or would it be wise to include information on a person's field of study? We suggest that investigations of social inequality can ben-

efit from considering field of study for at least two reasons. First, a focus on field of study seems meaningful for broadening knowledge of education as an institution that indicates the degree of openness in a society. The choice of educational discipline has a significant impact on a variety of life chances, including labor market out-

comes (Marini and Fan 1997), political attitudes (Crotty 1967; Nilsson and Ekehammar 1986), and lifestyle behavior (Van de Werfhorst 2001). Studies of the returns to specific fields of study may therefore add to knowledge of the openness of modern societies. Second, in most Western countries, educational expansion has increased the average level of education and reduced its variance (Hauser and Featherman 1976; Rijken 1999) and has increased the number of people who are trained in specialized fields. This trend is particularly prominent in the Netherlands, the country of focus here, where specialization in various fields, like technical, administrative, or health curricula, is possible at all postprimary levels of the educational system.

Fields of study are important in research on social inequality because they are associated with specific field-related resources. In this article, we propose that education provides four types of these resources—cultural, economic, communicative, and technical—and that people invest in these resources in making educational decisions. We distinguish among these four types of educational resources both theoretically and empirically. In particular, we developed scales that assess the extent to which the four types of resources are available for each of 11 fields of study. We relate individual investments in educational resources to a wide range of social outcomes: labor market outcomes, consumption patterns, and sociopolitical orientations. In general, we expect that investments in any of these four resources are related to a particular set of returns. A detailed description of our hypotheses relating resources to outcomes appears later in the article.

The objectives of our study were twofold. First, we aimed to assess the amount of cultural, economic, communicative, and technical educational resources acquired in fields of study. In this assessment, we use self-reported skills and knowledge of individuals who were educated in 11 fields of study. Second, and more important, we wanted to determine whether field-related educational resources can add to our understanding of the role of education in explaining inequality in life

chances. Therefore, our central research question was, *To what extent do field-related educational resources explain social differentiation in labor market outcomes, consumption patterns, and sociopolitical orientations?* We tested hypotheses using a representative sample of the Dutch population in 1998 (N. D. De Graaf et al. 1999).

In the Netherlands, students' participation in specialized fields increased substantially over the 20th century. Among men, 61 percent of those who were born in the 1920s obtained specialized schooling, compared to 82 percent of those who were born in the late 1960s. Among women, this increase was even more substantial, from 37 to 78 percent over the same period. This development was caused mainly by rising enrollments in vocational training at the upper secondary level: from 23 percent of those born in the 1920s to 42 percent of those born in the late 1960s (Van de Werfhorst 2001). In countries where field-specific education is limited to the tertiary sector, the study of field-related educational resources is limited to the most-educated members of the population. But the Dutch educational system, with specialization at basically all educational levels, allowed us to investigate a large part of the population, rather than just those with college degrees (cf. Davies and Guppy 1997; Gerhart 1990; Guimond, Begin, and Palmer 1989). Accordingly, an advantage of this study over earlier research on fields of study is that it included level of education as an asset independent of field-related resources.

FOUR TYPES OF EDUCATIONAL RESOURCES

Increased educational specialization does not necessarily imply that field of study is relevant in the social differentiation of life chances. Yet, there are ample theoretical grounds for assuming that field of study is related to individual outcomes. We build here on an approach that regards educational attainment as an investment in human resources. Like human capital theory (Becker 1993), our approach presupposes that individuals invest

anticipating returns on their investments. We believe that investing in educational resources offers returns that extend beyond the labor market (e.g., Daymont and Andrisani 1984; Kalmijn and Van der Lippe 1997; K. L. Wilson 1978; K. L. Wilson and Smith-Lovin 1983). Resources acquired in a field of study may have considerable consequences for one's private life, particularly consumption patterns and sociopolitical orientations. In specifying field-related resources, we first relied on Bourdieu's (1984) distinction between economic and cultural capital (see also P. M. De Graaf 1986; Wong 1998). We distinguished two additional types of resources: communicative and technical resources.

Economic Resources

We would expect fields of study to differ in the extent to which they provide students access to economic resources. Economic resources are broader than just financial means, comprising an array of competencies with regard to commerce and business (Bourdieu 1984). In this view of economic resources, field of study is a key factor in the formation of materialistic preferences. In the study of business, economics, and law, for example, people become acquainted with the meaning of financial wealth and luxury. These disciplines concentrate on managing, commercial thinking, and legal knowledge. K. L. Wilson (1978) used expert judgments to rank fields of study with regard to occupational power. Because the disciplinary emphases that enlarge people's stock of economic resources also increase occupational power, fields of study that score high on economic resources should lead to advantageous occupational positions, especially those with high economic status.

According to Bourdieu (1984), the lifestyles of those with abundant economic resources are aimed at demonstrating financial success to the outside world. One particular way in which economically advantaged groups in society express their attachment to financial success is by consuming luxury durables (N. D. De Graaf 1991; Kraaykamp and Nieuwebeerta 2000; Sobel 1981). Possessing expensive goods, such as cars and

antiques, is one way for an individual to show off affluence. A materialistic lifestyle is, however, not restricted to the consumption of durables; it is also reflected in elitist leisure behavior. Economically oriented individuals tend to appreciate more traditional works of art, are interested in exclusive holiday destinations, and participate in upper-class sports (Bourdieu 1978, 1984). In addition, economic elites are known for their conventionalism in sociopolitical issues. Because they are interested in maintaining the status quo in society, they express conservative attitudes and vote for parties to the right of the political spectrum (Bourdieu 1984; Lipset 1960). Our general expectation is thus that people who have acquired extensive economic educational resources are materialistic in their consumption and conservative in their sociopolitical orientation.

Cultural Resources

Cultural resources are a second type of competence acquired in fields of study. Bourdieu (1984) claimed that society is stratified not only by economic resources, but also by cultural resources. Two conceptually distinct, but empirically correlated, hierarchies are presumed to exist in society, each with its own elite. Cultural educational resources are especially meaningful in the cultural hierarchy. In fields of study emphasizing culture, such as the arts, the humanities, and teacher education, cultural competencies receive much attention; students become well versed in "highbrow" codes and tastes. These fields highlight cultural literacy, reading and writing skills, and creativity. In the labor market, jobs in education, art, journalism, and the public sector are situated high in the cultural hierarchy. Hence, we think that study in fields that emphasize culture will lead to advantageous jobs, particularly those with high cultural status.

Field-related cultural resources may also help to explain the social differentiation of highbrow cultural participation, such as attending the theater or a literary reading (Ganzeboom 1982; Kraaykamp and Dijkstra 1999). People who have invested in cultural competencies in school are likely to use these

resources to enjoy artistic works after they finish school. In addition, individuals who have selected a cultural field for labor market reasons may recognize afterward that cultural participation also fulfills their need for intellectual and aesthetic stimulation. Beyond the consumption of the arts, the cultural elite have distinctive preferences with regard to holiday destinations; food consumption; and ascetic sports, such as yoga and hiking (Bourdieu 1984). Unlike Bourdieu, we do not expect the culturally educated to be politically tolerant because such an orientation is particularly affected by training in communicative qualities. Our general expectation therefore is that people who have invested in cultural educational resources will participate often in highbrow culture and leisure activities that are cultural in nature.

Communicative Resources

In addition to economic and cultural resources, fields of study provide differential access to communicative resources. People who invest in communicative skills aim for jobs in which social interaction with other people is essential (Brennan et al. 1993). Communicative fields of study (e.g., social services, teaching, and medicine) train students in social skills that make them tolerant of other people's opinions and willing to take responsibility in voluntary organizations. It is evident that the fields just mentioned cover a wide range of curricula. However, a common feature is that they teach students an awareness of caring for and working with people. Communicative fields of study emphasize qualities like social-psychological knowledge, presentation skills, and discussion techniques. Since communicative qualities are important at all occupational levels, we do not expect them to be related to occupational status.

A consideration of communicative resources seems particularly relevant when it comes to sociopolitical orientations and participation. The emergence and maintenance of such orientations is of central interest to sociology, for it yields insights into the extent to which individuals recognize their responsibility to society. Most scholars argue that education increases cognitive skills that broaden students' horizons

and thereby fosters the ability to understand divergent points of view (Crotty 1967; Hyman and Wright 1979; Pascarella and Terenzini 1991; Phelan et al. 1995). In addition, Crotty (1967) and Guimond et al. (1989) claimed that differences among fields of study may be expected, since curricula in the social and behavioral sciences focus on social issues and interpersonal contact. Consequently, students in fields that provide communicative resources are expected to underscore egalitarian and tolerant values.

These field-related communicative resources would belong to Bourdieu's (1984) cultural hierarchy if our research were restricted to two types of resources. Indeed, in Bourdieu's concept of cultural capital, which assumes an acquaintance with the dominant cultural codes in society, tolerant sociopolitical opinions belong to the set of "legitimate" values. The cultural elite is generally more tolerant when it comes to such issues as the male-female division of household and labor tasks and often votes for left-wing political parties (Bourdieu 1984; P. M. De Graaf and Kalmijn 1995). In our opinion, communicative resources should be studied separately from cultural ones. We expect that people with extensive communicative resources hold more tolerant sociopolitical orientations and participate more often in voluntary organizations than do those who lack these resources.

Technical Resources

The fourth type of resource that we consider is of a technical nature. Technical training includes mathematical thinking and knowledge of production processes and automation and is directly linked to specific technical jobs. Technical educational resources are thus, first, intrinsically distinct from the other three types. A second reason for including technical resources is the proximity of economic and technical resources. In Bourdieu's dichotomous hierarchy, most technical professions are closely related to the economic domain. To obtain a clear picture of the consequences of having extensive economic resources, we judged it necessary to control for the technical resources that are sometimes associated with such resources.

Technical resources are primarily expected to influence a person's occupational position. People with technical training are employed mainly in jobs in which their technical skills are directly linked to production processes or concrete tasks, implying that their involvement in coordination and management responsibilities is relatively low. Since management is rewarded with financial returns or prestige, people with technical resources are expected to have relatively low-status positions, compared to those with extensive cultural, economic, or communicative educational resources, especially if occupational status is decomposed into cultural and economic parts.

At first glance, the potential effects of technical educational resources on consumption patterns or on sociopolitical attitudes are less obvious. However, we may expect that the leisure activities of individuals with technical competencies are oriented toward practical hobbies, like gardening, repairing goods, home decorating, and tinkering with cars. This expectation arises from the "spillover hypothesis," which assumes that individuals seek leisure activities that match their daily occupational routines (Wilensky 1960; for an overview see J. Wilson 1980). With regard to sociopolitical orientations, we anticipate that people who are educated in technical fields advance the more conservative opinion that individuals are responsible for their own success or failure in life. The applied competencies of the technically educated will result in secure labor market positions, which makes it unlikely that they will suffer bad life circumstances themselves. As a consequence, they are likely to adopt the view that success is attributable primarily to individual effort. Hence, we presume that the technically educated are conservative when it comes to sociopolitical issues.

SELECTION AND INTERPRETATION

We need to clarify two additional issues. First, we must specify to what extent the associations between educational resources and outcomes that we observe may be caused by selection factors affecting a person's amount

of educational resources. If these selection factors also affect outcome variables, an observed relation between educational resources and outcomes may be partly spurious. For example, if people from certain families are more likely to enter specific fields of study, this selection may cause the association between educational resources and occupational status or some consumption pattern. Indeed, the impact of family background on choice of field of study has been well documented in the United States and various European countries over the past few years (Davies and Guppy 1997; Dryler 1998; Hansen 1997; Van de Werfhorst, De Graaf, and Kraaykamp 2001). In general, these studies found that (1) children of lower-class backgrounds are more often educated in technical types of training, (2) children of the cultural elite enter cultural fields of study relatively often, and (3) children of the economic elite tend to choose economically oriented fields. Thus, if we did not control for parental background in a detailed way, we might have mistakenly concluded that technical education produces lower levels of occupational status, whereas association reflects the lower-class origins of the technically educated (cf. Blau and Duncan 1967). Likewise, highbrow cultural participation of culturally educated individuals may be caused by growing up in a culturally active family, and materialistic behavior may stem from affluent origins (cf. Kraaykamp and Nieuwbeerta 2000). In such cases, we would find empirical support for our hypotheses, whereas these differences between individuals were to a large extent already established before the actual educational investments took place. Our aim was to minimize these selection effects by controlling extensively for parental background characteristics.¹

The second point of clarification concerns the interpretation of observed associations between field-of-study resources and outcomes. It may very well be that the impact of educational resources on labor market outcomes, consumption patterns, and sociopolitical orientations is indirect rather than direct. For example, the impact of economic educational resources on materialistic types of consumption may be mediated by income. If

explaining the effects of field-related resources on social outcomes required a unique set of mediating factors for each outcome, the analysis would have been cumbersome. But even if it were possible to do so with the available data, we would still not prefer such a strategy. We think it is meaningful to establish "total" effects of the four educational resources, notwithstanding the fact that these effects may be further decomposed into direct and indirect effects. We did, however, take one mediating factor into account. Given the large attention in sociological research to the influence of education and occupation on individual lives, we included occupational status in our models predicting consumption patterns and sociopolitical orientations. Since we predicted a strong association between educational resources and occupational position, including occupational status as an intervening variable addressed which part of the educational-resource effects are due to field-related resource effects on the characteristics of jobs.

DATA

One major advantage of our study was that our theoretical distinction among four types of educational resources was paralleled by empirical measures for the extent to which fields of study supply these resources to their students. For the construction of these measures and the analysis of their impact on a wide variety of outcomes, we used the Family Survey of the Dutch Population (FSDP):1998 (N. D. De Graaf et al. 1999), which investigated aspects of the life course and life situations of the Dutch-speaking population of the Netherlands aged 18-70 in 1998. Primary respondents and, if married or cohabiting, their partners were interviewed with exactly the same technique—an oral interview followed by a self-administered questionnaire. All told, 2,029 persons in 1,140 households were interviewed. In addition, a smaller questionnaire, containing some of the original questions, was mailed to relatives of the primary respondents and their partners. In our construction of the scales for four types of educational resources, we used information

on the primary respondents, their partners, and adult children who had at least completed secondary education ($N = 1,960$). For the analysis of the effects of educational resources on labor market outcomes, consumption patterns, and sociopolitical orientations, we used only primary respondents and their partners ($N = 1,677$ for the labor market outcomes and $N = 1,667$ for the consumption patterns and sociopolitical orientations).

The sample of primary respondents was drawn randomly from population registers of a sample of Dutch municipalities stratified by region and urbanization. The 1998 survey had a contact rate (contacted persons compared to the total sample) of 91.1 percent. Since 54.4 percent cooperated with the face-to-face interviews (cooperation rate), the response rate was ($54.4 \times 91.1 =$) 49.6 percent. Response rates below 50 percent have unfortunately become common in the Netherlands. The low response rate here is probably also a consequence of the fact that both the respondent and spouse needed to cooperate for an interview to be successful; the cooperation of other relatives was not a condition of being interviewed. Because there was no selective nonresponse with respect to educational variables, we believe that our findings are typical of the adult Dutch population. Moreover, in a correlational analysis such as ours, selective nonresponse is not likely to have a large impact on outcomes.

MEASURING FOUR TYPES OF EDUCATIONAL RESOURCES

The strategy we followed in measuring the cultural, economic, communicative, and technical content of fields of study was to ask the FSDP respondents to judge their own educational past. The respondents reported the highest education (level and field) they had completed. If they had attained at least a secondary-level education, they were asked the following: "Please indicate for this education (level and field) to what extent attention was paid to the following types of knowledge and skills." Then, a list of 16 types of skills and knowledge was presented in random order.

The 16 items had five answer categories, ranging from "to a very limited extent" (score of 1) to "to a very large extent" (score of 5). People with a primary education only ($N = 179$) were assumed to have obtained no specific field-related resources at all (and did not answer these questions). These respondents were assigned scale values of 1, which was controlled for with a dummy variable for primary level in further analyses.

Table 1 presents the 16 items and the average scores across individuals in different fields of study. The items are grouped on the basis of a factor analysis, and average scores for the four types of resources are reported.² The 11 fields of study are based on the 10 specialized fields used by Dutch official statistical agencies, plus general education.

Table 1 shows that individual reports of skills and knowledge clearly differ across fields of study. People who were educated in the arts, humanities, and teacher education strongly ascribe cultural resources to their own fields; people who were trained in economics, administration, and law assign many economic resources to their education; people who were trained in sociocultural fields, personal care, or teacher education evaluate the communicative aspect of their studies strongly; and people who were trained in technical and agricultural fields strongly ascribe technical resources to their fields. Obviously, this differentiation by field of study is a necessary condition in constructing field-related scales. However, to be able to use aggregated scores within fields, one other criterion must be met: The impact of field of study on individual scale values must not be disturbed by other relevant characteristics. Two characteristics that we took into account are educational level and birth cohort. Since some fields of study are available at all non-primary educational levels in the Netherlands, while others are concentrated mainly in tertiary education, a bivariate association between field of study and individual reports of skills and knowledge may actually be an educational-level effect. Likewise, since all fields may have experienced changes in educational content over time but the distribution of individuals across fields of study differs among cohorts, we needed to assess whether

birth cohort is a confounding factor in the reports of our respondents.

Table 2 shows the results of an analysis of variance, with individual scores on cultural, economic, communicative, and technical resources as dependent variables and field of study, educational level, and birth cohort as independent variables. It indicates that the variance in cultural, economic, and technical resources is largely captured by field of study. Communicative resources are equally affected by field of study and educational level. The regression coefficients of these models (not reported) underscore that the differences among fields of study are fairly stable if the variation in educational level and birth cohort are taken into account.

Our strategy was to optimize educational-level effects with dummy variables and to include scales for the four types of resources. The scale values for cultural, economic, communicative, and technical resources correspond to the average scores of the four types reported in Table 1; field of study alone determines the quantity of the four types of resources acquired. Thus, *all* individuals who were educated in a field of study were assigned the same level of educational resources.³ Educational level has five categories: primary education, lower secondary education, upper secondary education, vocational college, and university. This approach regards field of study as a horizontal dimension in education and educational level as a vertical dimension. Both can be included in multivariate regression models, allowing an examination of the impact of educational level and field-related educational resources separately. In the regression analyses presented later, we used standardized measures of educational resources.⁴

OTHER MEASURES

Independent Variables

The independent variables included in addition to the field-related educational resources mainly served to capture the selection effects described earlier. Individual characteristics that were taken into account were *gender*

Table 1. Average Scores on 16 Types of Knowledge and Skills, by Field of Study

	Field of Study															
	General	Teacher Education	Humanities/ Arts	Agriculture	Technical	Medical	Economics/ Administration	Law	Social-Cultural	Social/ Personal Care	Police/ Military	Total				
Knowledge of arts/literature	2.50	3.18	3.78	1.31	1.30	1.24	1.37	1.26	1.94	1.39	1.06	1.79				
General knowledge/historical knowledge	3.39	3.83	3.68	2.26	2.22	2.08	2.16	2.74	3.01	2.44	3.44	2.66				
Creativity/artistic expression	2.32	3.59	3.16	2.18	2.02	1.88	1.58	1.74	2.69	3.15	1.44	2.29				
Writing/reading skills	3.57	3.82	3.33	2.67	2.50	2.26	3.02	3.03	3.00	2.61	3.69	2.94				
Mean cultural items	2.94	3.60	3.49	2.10	2.01	1.87	2.03	2.19	2.66	2.40	2.41	2.42				
Knowledge of conduct of business/bookkeeping	2.72	1.34	1.49	3.65	2.11	1.42	3.89	3.08	1.67	1.81	1.69	2.38				
Knowledge of Dutch law/ procedures	2.18	1.76	1.65	2.26	1.87	2.00	3.12	4.62	2.64	1.86	4.63	2.25				
Business/commercial thinking	2.01	1.66	1.80	3.04	2.52	1.78	3.67	3.00	1.97	1.87	2.56	2.39				
Management skills	1.51	2.71	1.91	2.57	2.08	2.09	2.98	2.56	2.70	1.75	2.50	2.18				
Mean economic items	2.11	1.87	1.77	2.88	2.14	1.82	3.41	3.31	2.24	1.82	2.84	2.30				
Knowledge of communication/ instruction	2.08	3.08	2.58	2.35	2.31	3.16	2.97	2.56	3.40	2.17	3.38	2.57				
Knowledge of social psychology/ teaching methods	1.44	4.47	2.81	1.40	1.43	3.09	1.78	2.10	4.21	2.34	2.81	2.16				
Discussion technique/group conversation	2.17	3.35	2.73	2.01	1.96	2.97	2.57	2.95	3.99	2.36	3.19	2.49				
Presentation skills/ public speaking	2.34	3.67	3.00	2.10	2.10	2.67	2.85	2.82	3.46	2.16	3.31	2.56				
Mean communicative items	2.01	3.64	2.78	1.97	1.95	2.97	2.54	2.61	3.76	2.26	3.17	2.44				
Knowledge of mechanization/ automation	1.46	1.45	1.52	2.90	2.95	1.71	2.58	2.00	1.46	1.22	2.38	2.06				
Knowledge of techniques/ production processes	1.65	1.59	1.65	3.49	3.93	2.15	1.82	1.62	1.40	1.71	2.19	2.32				
Making technical/mathematical calculations	2.77	2.04	1.59	3.06	3.89	2.23	2.38	2.03	1.62	1.57	1.69	2.62				
Conducting tests/experiments	2.28	2.02	1.68	2.78	2.90	2.45	1.45	1.33	1.67	1.58	1.81	2.15				
Mean technical items	2.04	1.77	1.61	3.06	3.42	2.14	2.06	1.74	1.54	1.52	2.02	2.29				

Source: Survey of the Dutch Population 1998 (N = 1,960).

Note: General, N = 355; Teacher Education, N = 131; Humanities/Arts, N = 85; Agriculture, N = 72; Technical, N = 454; Medical, N = 196; Economics/Administration, N = 318; Law, N = 39; Social-Cultural, N = 87; Social/Personal Care, N = 207; Police/Military, N = 16; Total, N = 1,960.

Table 2. Analysis of Variance in Four Types of Self-Reported Skills and Knowledge

	Cultural Resources		Economic Resources		Communicative Resources		Technical Resources	
	F	β	F	β	F	β	F	β
Field of study (<i>df</i> = 10)	100.95***	.59	84.54***	.51	81.98***	.35	137.49***	.66
Educational level (<i>df</i> = 3) ^a	1.36	.03	42.89***	.22	100.45***	.35	42.10***	.20
Birth cohort (<i>df</i> = 3)	5.95***	.08	14.95***	.13	63.41***	.25	37.57***	.19

^a Educational level has 4 categories (omitting primary education, since the list of skills and knowledge was not presented to the respondents with only primary education): lower secondary, upper secondary, vocational college, and university.

Source: Family Survey of the Dutch Population 1998 (*N* = 1,960).

(female = 0, male = 1), *age* at interview (divided by 10; 25 = 0), and whether or not the respondent was *religious* (0 = religious, 1 = not religious). By incorporating four indicators of parental background, each of which is related to one of the four types of educational resources, we were able to capture much of the variation in the dependent variables caused by parental background. These four indicators are a cultural background, a financially wealthy background, a communication-oriented background, and a technically oriented background.⁵

Cultural background was measured by the reading preferences of parents. Earlier research showed that reading, more so than participation in outside cultural activities, such as visits to museums, is a useful measure of cultural capital in the family (Crook 1997; N. D. De Graaf, P. M. De Graaf, and Kraaykamp 2000). Our measure consisted of the parents' reading preferences (five genres: Dutch literature, detective stories, war novels, nonfiction books, and foreign literature), the number of books the parents owned, whether the parents read news magazines, whether the parents were members of a library, and whether a dictionary was in the home. All items referred to the situation when the respondent was 15 years old. First, percentile scores on all items were computed, after which a reliability analysis was conducted (Cronbach's alpha = 0.80). Then, we took the average score and standardized it for each of the four birth cohorts separately (1928–40, 1941–52, 1953–62, and 1963–73).

To assess a *financially wealthy background*, a measure of parental income would be valuable. However, it is hard to ask respondents about their parents' income, especially in retrospect. Another option is to ask respondents about their parents' possession of material goods and the characteristics of their housing during childhood (N. D. De Graaf et al. 2000; Wong 1998). Wong (1998:9) preferred this proxy of material wealth because "it takes time to accumulate these items and thus material possession reflects a stable and continuous level of wealth." Besides, the possession of material goods is arguably a better measure of a wealthy background than is parental income. Growing up in a big house with many luxury goods makes people aware of how their parents spent their money and makes it likely that they will choose educational curricula that allow for similar levels of material possession for themselves.

In the FSDP 1998, information was available about the parents' home ownership; number of rooms per inhabitant of the parental house; number of heated bedrooms; garden size; the parents' possession of a car, camera, freezer, automatic dishwasher, VCR, and antique furniture; and whether the parents employed a paid cleaning woman, paid child minder, or paid gardener. All items referred to the situation when the respondent was 15 years old. After percentiles were computed for each item, a reliability analysis showed a Cronbach's alpha of 0.78. An average score was computed on all items and was standardized for each of four birth cohorts

separately. In this way, we accounted for the fact that the likelihood of having parents who possessed these items is strongly related to the period when one is raised, owing to the general rise in wealth and technological innovation.

The type of background that captures the parental background selection into a communicative field of study was measured through parental membership in voluntary organizations. We assumed that parents who are members of and are active in many organizations behave in a way that attracts children to social interaction. This socialization may result in a choice of field that prepares one for jobs in which social interaction plays a major role. Organizations that were included in the measure of a *communication-oriented background* are labor unions, church organizations, socially responsible organizations (e.g., Amnesty International and those that engage in work with refugees); environmental organizations; music, choir, and theater clubs; school organizations; and sports clubs. The scale used consists of a within-birth cohort standardized mean value for these percentiled items.

A *technically oriented background* was measured by four items asking whether the parents were often involved in odd jobs at home: fixing tires, tinkering with the car, decorating the house (painting and wallpapering), and fixing household appliances. Again, parental technical activity was measured for the respondent's childhood. Response options were "parents never did it themselves," "parents sometimes did it themselves," and "parents always did it themselves." The Cronbach's alpha for the percentiled items was 0.66. Mean values for the four items were standardized within four birth cohorts.

Occupational status, which is included in our models on consumption patterns and sociopolitical orientations, was assessed via the International Socio-Economic Index (ISEI) of occupations (Ganzeboom, De Graaf, and Treiman 1992). This variable also functions as a dependent variable in our analysis on labor market outcomes. Missing values on this variable (2 percent of the cases) were imputed via a regression of the ISEI on gender, age, educational level, and the four types of educational resources.

Dependent Variables

We are concerned with labor market outcomes, consumption patterns, and sociopolitical orientations. To provide a solid test for our expectations, we studied several outcomes in each domain. Our selection of dependent variables was obviously determined by the availability of data. However, we think that we addressed the most relevant consequences of educational differentiation. Table 3 lists all the dependent variables.

Three dimensions of labor market outcomes were considered: occupational status, economic status, and cultural status (P. M. De Graaf, Ganzeboom, and Kalmijn 1989; Kalmijn 1994). Consumption (and behavioral) patterns were indicated by going out (cultural participation and casino visits); literary reading; possession of modern arts and antique furniture; cultural literacy; holiday visits to Paris and the French Riviera; practicing elite sports; the possession of a recently purchased, expensive car; and engaging in do-it-yourself activities. Sociopolitical orientations that were taken into consideration were holding tolerant gender-role attitudes, being a member of organizations oriented toward social responsibility, and voting for a left-wing political party (see Table 3 for a description of the items and scale constructions). In the regression analyses presented next, standardized measures were used for all nondichotomous dependent and independent variables.

RESULTS

For each dependent variable, we first estimated a regression model that included age, gender, religion, parental background characteristics, educational level of the respondent, and the four scales for field-related educational resources. For consumption patterns and sociopolitical orientations and participation, we estimated a second model that included occupational status as an intervening variable. For interval-level dependent variables, we used ordinary least-squares estimation, and for binary dependent variables, we used logistic regression using maximum likelihood estimation.

Table 3. List of Dependent Variables and Their Construction

Variable	Description
Occupational status	ISEI classification of Ganzeboom et al. (1992)
Economic occupational status	Jobs ranked on knowledge on trade, economics, commercial skills and high financial rewards (De Graaf et al. 1989)
Cultural occupational status	Jobs ranked on the use of written texts, cultural knowledge and creative and artistic skills (De Graaf et al. 1989)
Outside cultural participation	Visits to architectural buildings, classical music, historic museums, art museums, classic theater, popular theater (never, 1-3 times a year, 4-6 times a year, more than 6 times a year); Cronbach's alpha = 0.80
Literary reading	Dutch literary novels, translated literary novels, novels in a foreign language (never, sometimes, often); Cronbach's alpha = 0.73
Visits to casinos	1 = at least once a year, 0 = otherwise
Cultural literacy	Number of correct answers to the question whether the following statements are true or false: "The 'Mona Lisa' was painted by Leonardo da Vinci" (true); "Joost Zwagerman is the author of 'Vals Licht'" (true), "Santiago de Compostella is the destination of a famous pilgrimage" (true); "John F. Kennedy was killed in Denver, Colorado" (false); "The poem 'Herinnering aan Holland' is written by Hendrik Marsman" (true); "Also in WWI the Netherlands surrendered to the Germans" (false); "Women's suffrage has existed for more than a century in the Netherlands" (false).
Possession of modern art (art after 1900)	No/yes
Possession of antique furniture	No/yes
Holiday visits to Paris	Never, once, 2 or 3 times, more than 3 times
Holiday visits to the French Riviera	Never, once, 2 or 3 times, more than 3 times
Elite sports	Whether the respondent has played golf, tennis, or field hockey; skied; or sailed regularly after having left school (at least once a month; no/yes)
Expensive car	At least \$13,000, bought in 1996 or later (no/yes)
Tolerant gender-role attitude	Average score on (1) "A woman is better suited for raising young children than a man"; (2) "If a man thinks his wife should not work, she has to accept that"; (3) "It is unnatural for women to supervise men in a company"; (4) "Women with children should look for paid work only if they are certain they will still have enough time left for their children"; (5) "A mother should be home when her children return from school"; and (6) "Men are by nature incapable of doing housework" (Agree strongly, value 1, to disagree strongly, value 5; Cronbach's alpha = 0.77)
Membership in social organizations	Questions regarding whether the respondent is an active member of a labor union, political party, church association, societal interest organization, environmental association (no, yes not active, yes active; average score)
Vote for left-wing party	Would vote for the Social-Democrat, Green Left, or Socialist Party in national parliamentary elections (no/yes)
Do-it-yourself	Questions regarding whether the respondents (1) are active in tinkering and fixing, (2) fix their own tires, (3) tinker with the car, (4) decorate the house, and (5) fix household appliances (never, sometimes, always); Cronbach's alpha = 0.77

Labor Market Outcomes

Table 4 shows the results of the regression analyses of labor market outcomes. In the first model, next to demographic and parental characteristics, educational level has a strong impact on occupational status and cultural and economic occupational status. Economic and cultural educational resources both have a positive impact on occupational status; people who invested in economic and cultural types of training do well in the labor market. The impact of cultural resources is even stronger than that of economic resources. If occupational status is separated into two status scales (economic and cultural), the positive impact of cultural and economic educational resources is found only on the corresponding hierarchy. Thus, treating occupational status as one dimensional does not yield as much insight into the occupational returns to field of study as does distinguishing

two types of status. Indeed, labor market returns to cultural investments are found only in high-status jobs in which cultural knowledge is dominant, whereas economic investments lead to advantageous positions with regard to management and financial rewards.

Communicative resources have no impact on the one-dimensional occupational status, but they have a negative effect on economic occupational status and a positive effect on cultural occupational status. Apparently, if occupational status is disaggregated into economic and cultural status, communicative resources decrease the possibility of obtaining jobs related to economic capital. Since jobs in personal and social care score relatively high on cultural status, communicative qualities enhance one's cultural occupational status, though not as strongly as cultural educational resources do.

Technical resources do not lead to advantageous jobs. Rather, people who have invest-

Table 4. Regression Models of Labor Market Outcomes on Selected Independent Variables

	Occupational Status (b)	Economic Occupational Status (b)	Cultural Occupational Status (b)
Intercept	.362***	.455***	.605***
<i>Control Variables</i>			
Age	.065**	.076***	.087***
Male	.083~	.189***	-.072
Not religious	.013	.019	-.056
<i>Parental Background</i>			
Cultural	.057*	.073**	.068**
Wealthy	.060**	.045~	.020
Communication oriented	.006	.017	.029
Technically oriented	.007	.012	.001
<i>Educational Level</i>			
Primary	-.381~	-1.573***	-1.169***
Lower secondary	-.949***	-.977***	-1.096***
Upper secondary	-.500***	-.526***	-.616***
Vocational college	Ref	Ref	Ref
University	.440***	.359***	.334***
<i>Field-of-Study Resources</i>			
Cultural	.223***	.016	.128***
Economic	.125***	.138***	-.070**
Communicative	.039	-.179***	.098**
Technical	.067~	-.134***	-.089**
Adjusted R ²	.328	.276	.415

~ $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ (two tailed).

ed in technical skills have less cultural and economic status than do people who chose other fields of study at the same educational level. This evidence supports our claim that the technically educated are often employed in work in which their skills are directly applied, rather than in status-enhancing supervisory and managerial tasks.

Consumption Patterns

The determinants of consumption patterns are displayed in Table 5. With regard to participation in outside cultural activities and literary reading, people with higher levels of education attend cultural performances and visit museums more frequently and more often read literary works than do people with lower educational levels. Furthermore, among people with equal educational levels, those with extensive cultural resources more often consume cultural works than do individuals with other types of resources. Although all types of resources affect literary reading positively, the strongest influence by far comes from cultural resources. In Model 2, it is clear that only a minor part of the impact of cultural resources on cultural consumption is attributable to the fact that culturally educated people have higher-status jobs; the effects of cultural resources on outside cultural participation and literary reading are mostly direct. Acquiring cultural skills and knowledge through education apparently increases the pleasure obtained from consuming art, independent of occupational status. The analyses of cultural literacy show more or less the same pattern; the possession of cultural educational resources positively affects one's cultural literacy, largely independent of occupational status.

Visits to casinos, another type of outside leisure activity, are influenced by economic educational resources. People who invested in economic knowledge and skills visit casinos relatively often. So whereas attendance at cultural performances gives enjoyment to people of cultural fields of study, visits to casinos function in the same way for those in economic fields of study. This effect remains meaningful even after the inclusion of occupational status.

Two types of art possession were studied, one closely related to the cultural preferences of the cultural elite (modern art) and the other to the preferences of the economic elite (antique furniture). As expected, people who acquired extensive cultural resources in their education more often possess modern art. This total effect is mediated by the influence of occupational status on art possession (as shown in Model 2). The possession of antique furniture is not affected by educational resources but is strongly related to financially wealthy backgrounds probably because of the direct inheritance of antiques.

Two holiday destinations associated with cultural and economic lifestyle preferences, respectively, are visits to Paris and visits to the French Riviera. Table 5 shows that visits to Paris are more often undertaken by people with extensive cultural resources, who presumably appreciate the extensive supply of highbrow culture in the French capital. People who invested in economic resources seem to find more joy in visiting the French Riviera. However, most of the impact of economic resources is explained by the fact that economically trained people are often employed in high-status jobs. One explanation for this finding is that a high income (one of the indicators on which the ISEI status measure is based) is a prerequisite to vacationing on the Mediterranean coast.

Two other typical economic lifestyle characteristics are practicing elite sports and possessing an expensive, recently purchased car. Table 5 shows that people who obtained extensive economic resources indeed take part in elite sports more often than do people with other qualifications. Most of the effect is indirect, through occupational status. The economically educated are also more likely to own an expensive car, even after occupational status is controlled for. We found that the preference for spending money on status goods like an expensive car is enhanced in fields of study in which knowledge of financial and legal assets is dominant.

As a last type of consumption, we examined whether people are often busy with odd jobs in the house, like tinkering with the car, decorating, or fixing household appliances. This type of leisure consumption, labeled

Table 5. Regression Models of Various Types of Consumption and Behavior on Selected Independent Variables

Model	Outside Cultural Participation		Literary Reading		Visits to Casinos		Cultural Literacy		Possession of Modern Art		Possession of Antique Furniture	
	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)
Intercept	.512***	.468***	.503***	.470***	-1.886***	-1.911***	.377***	.338***	-.470**	-.567***	-1.479***	-1.556***
<i>Control Variables</i>												
Age	.243***	.234***	.097***	.091***	-.474***	-.481***	.225***	.218***	.200**	.184**	.366***	.357***
Male	-.189***	-.200***	-.441***	-.449***	.210	.205	.107*	.097*	.149	.135	-.195	-.207
Not religious	-.035	-.037	.020	.018	.480***	.479***	.049	.047	-.306*	-.311*	-.163	-.163
<i>Parental Background</i>												
Cultural	.202***	.195***	.260***	.255***	.047	.044	.130***	.125***	.260***	.251***	.280***	.272***
Wealthy	.052*	.045*	.024	.019	.073	.069	.028	.022	.298***	.288***	.438***	.427***
Communication oriented	.122***	.122***	.038~	.038~	-.010	-.010	.046*	.046*	.137*	.138*	.093	.092
Technically oriented	.016	.015	.008	.007	-.037	-.037	.008	.007	.007	.004	-.046	-.048
<i>Educational Level</i>												
Primary	-.658**	-.609**	.070	.108	.122	.146	-.797***	-.754***	-1.477*	-1.387*	-.598	-.514
Lower secondary	-.724***	-.608***	-.687***	-.599***	-.049	.012	-.803***	-.701***	-1.573***	-1.363***	-.153	.021
Upper secondary	-.459***	-.398***	-.448***	-.402***	.053	.086	-.419***	-.366***	-.901***	-.788***	-.026	.063
Vocational college (Ref)												
University	.153~	.101	.432***	.393***	-.165	-.192	.162*	.116***	.625**	.522*	.265	.170
<i>Field-of-Study Resources</i>												
Cultural	.130***	.103**	.225***	.205***	.013	.000	.192***	.169***	.254*	.206~	-.068	-.108
Economic	-.010	-.025	.090**	.079**	.250**	.241**	.025	.012	.022	.001	-.092	-.110
Communicative	.029	.024	.094*	.090*	-.230	-.234~	-.051	-.051	-.143	-.076	.076	.070
Technical	.001	-.007	.073*	.067~	-.084	-.088	-.035	-.042	-.024	-.047	-.031	-.047
Occupational status												
	.121***	.121***	.091***	.091***	.065	.065	.106***	.106***	.240**	.240**	.195*	.195*
Adjusted R ²	.341	.350	.386	.391	.087 a	.087 a	.278	.285	.251 a	.258 a	.145 a	.150 a

Continued

Table 5. Continued

Model	Holiday Visits to Paris		Holiday Visits to the French Riviera		Elite Sports		Possession of an Expensive Car		Do-It-Yourself Activities	
	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)
Intercept	.352***	.306***	.181*	.145*	-.784***	-.948***	-.217	-.312*	-.542***	-.525***
<i>Control Variables</i>										
Age	.137***	.129***	.151***	.144***	.096	.072	.108~	.093	-.108***	-.105***
Male	-.070	-.081	.048	.040	-.180	-.203	-.319*	-.344**	1.107***	1.111***
Not religious	.071	.068	.056	.054	.071	.064	-.050	-.056	-.021	-.020
<i>Parental Background</i>										
Cultural	.153***	.147***	.125***	.119***	.239***	.226***	-.014	-.028	.044*	.047*
Wealthy	.050*	.043~	.128***	.122***	.427***	.411***	.083	.069	-.051*	-.049*
Communication oriented	.024	.024	-.018	-.018	-.041	-.042	.019	.018	.038~	.038~
Technically oriented	-.010	-.011	-.006	-.007	.058	.054	.080	.079	.143***	.143***
<i>Educational Level</i>										
Primary	-.735**	-.684**	-.548*	-.508*	-.877	-.735	-.1178*	-.1086~	.081	.062
Lower secondary	-.710***	-.589***	-.376***	-.282**	-.953***	-.609*	-.376*	-.133	-.030	-.075
Upper secondary	-.312***	-.248***	-.176*	-.127~	-.394*	-.215	-.434**	-.312*	.011	-.012
Vocational college (Ref)										
University	.412***	.358***	.050	.007	.233	.057	-.073	-.195	-.166*	-.145~
<i>Field-of-Study Resources</i>										
Cultural	.108**	.081*	.042	.021	-.083	-.161	-.103	-.163~	-.056~	-.046
Economic	.009	-.006	.068*	.057~	.180*	.141~	.197**	.167*	-.088***	-.082**
Communicative	-.090*	-.095*	-.035	-.039	.062	.040	-.090	-.103	.059	.061
Technical	-.009	-.018	-.073~	-.079~	-.003	-.034	-.078	-.098	.168***	.171***
Occupational status										
		.126***		.098***		.399***		.263***		-.047*
Adjusted R ²	.199	.209	.114	.120	.163 ^a	.184 ^a	.039 ^a	.051 ^a	.409	.410

~ $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ (two tailed).^a Nagelkerke's R².

“do-it-yourself activities,” is higher among those who were educated in technically oriented fields of study. Do-it-yourself activities can be successful only if people have the requisite skills, and those who were trained in technical fields are more apt to fix goods themselves and to enjoy doing so. So, although at first it may seem that technical skills are the least comprehensive, in the sense that they are particularly oriented toward the labor market, they lead to particular leisure-time preferences, too.

Sociopolitical Orientations and Participation

The analyses predicting sociopolitical orientations and participation are shown in Table 6. Three dependent variables were studied: having tolerant gender-role attitudes, membership in socially responsible organizations, and voting for a left-wing political party in national elections. The analyses revealed that individuals who invested in communicative qualities in their education are more tolerant and more often subscribe to socially responsible organizations like human rights, environmental, or church associations. Thus, it appears that students who have been trained to understand other people's standpoints and motives have developed progressive orientations. But Table 6 also shows that cultural resources do not have an impact on tolerance or membership in socially responsible organizations. Whereas Bourdieu claimed that the cultural elite participate in highbrow culture more and are more progressive, in this study both types of outcomes are influenced by different sets of resources.

Individuals with more field-related economic resources have fewer memberships in social organizations and are less likely to vote for a left-wing political party. The lower propensity of economically trained people to support left-wing parties may be explained by their interest in the maintenance of the status quo in society. Left-wing parties are generally more supportive of changes in the distribution of power and other resources, which would jeopardize the valuable labor market opportunities of the economically educated. A similar explanation holds for the low mem-

bership of the economically trained in social organizations. Social organizations typically support the view that society has a responsibility for individual and societal problems (e.g., homelessness and refugees), whereas individuals with high levels of field-related economic resources are likely to attribute their advantaged labor market opportunities to their personal qualities, not to socially structured constraints.

We did not find that field-related economic resources decrease tolerance for nontraditional gender roles. However, we did find that those with technical resources do have less tolerance of nontraditional gender roles. This lesser tolerance may stem from gender segregation in fields of study, since men are strongly overrepresented in technical fields. Independent of an individual's gender, the gender composition of the schools a person attends (and presumably of the workplace as well) may have an impact on gender attitudes regarding work and the household division of labor. A similar view was expressed by Hearn and Olzak (1981), who argued that the sex composition in fields of study reproduces gender inequality.

CONCLUSION

In this article, we have examined the impact of individual investments in four types of educational resources. We assumed that these resources are differentially obtained from fields of study and that they influence outcomes in three domains: the labor market, consumption patterns, and sociopolitical orientations. By asking respondents of a nationally representative sample of the Dutch population about their own educational past, we obtained reliable measures of the extent to which education supplies field-related cultural, economic, communicative, and technical resources to students.

Our analyses indicate that cultural and economic resources are particularly helpful in obtaining high-status jobs. If occupational status is decomposed into cultural and economic dimensions, cultural educational resources lead to high cultural-status jobs, and economic resources lead to jobs that are high on the eco-

Table 6. Regression Models of Sociopolitical Orientations and Participation on Selected Independent Variables

Model	Tolerant Gender-Role Attitude		Membership in Social Organizations		Vote for Left-wing Political Party	
	1 (b)	2 (b)	1 (b)	2 (b)	1 (b)	2 (b)
Intercept	.354***	.322***	.093	.064	-.556***	-.498**
<i>Control Variables</i>						
Age	-.196***	-.202***	.173***	.168***	-.047	-.036
Male	-.175***	-.183***	.116*	.109*	-.006	.007
Not religious	.173***	.172***	-.268***	-.269***	.671***	.677***
<i>Parental Background</i>						
Cultural Wealthy	.067**	.063*	.053*	.049~	-.123*	-.115~
Communication oriented	-.006	-.010	.003	-.002	-.170**	-.162**
Technically oriented	.034	.034	.221***	.221***	.168**	.169**
	-.013	-.013	.007	.007	.060	.061
<i>Educational Level</i>						
Primary	-.852***	-.817***	-.297	-.265	-.013	-.076
Lower secondary	-.513***	-.429***	-.080	-.003	-.037	-.194
Upper secondary	-.295***	-.251***	-.126~	-.086	-.112	-.195
Vocational college (Ref)						
University	.128	.091	.144	.110	.173	.243
<i>Field-of-Study Resources</i>						
Cultural	.008	-.012	-.014	-.032	.029	.065
Economic	-.011	-.021	-.067*	-.077*	-.198**	-.178*
Communicative	.098*	.095*	.123**	.120**	.239*	.246*
Technical	-.091*	-.097*	.040	.035	-.089	-.077
Occupational status		.087***		.080**		-.162*
Adjusted R ²	.229	.234	.158	.162	.069 ^a	.074 ^a

~ $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ (two tailed).

^a Nagelkerke's R².

conomic-status ladder. This result underscores Bourdieu's (1984) claim that the formation of cultural and economic elites begins in the educational system. It confirms that educational qualifications are central to the production of not only a cultural elite, but an economic elite as well. Technical resources seem less valuable in the labor market, at least as far as status is concerned. Technical qualifications generally lead to tasks for which the competencies obtained in education are directly applicable. Thus, status-enhancing work attributes, such as supervising or managing, are less often delegated to those with technical types of training.

The highbrow preferences of people from culturally oriented fields of study are apparent in our data. The culturally educated like highbrow culture more, read more literature, possess more modern art, and have a higher level of cultural literacy than do individuals who invested less in cultural resources during their education. Economically educated individuals show a different pattern of consumption. Although their consumption is less obviously related to their education, they especially fancy luxury commodities, like expensive cars and vacations. The technically educated find enjoyment in leisure activities for which typi-

cal technical skills are required, such as do-it-yourself home maintenance activities. In general, individuals express consumption patterns that are closely related to their educational pasts. This finding may be interpreted as support for Wilensky's (1960) "spillover hypothesis," which associates lifestyle choices with occupational routines. The acquisition of skills and knowledge through fields of study promotes an interest in related leisure-time behaviors and types of consumption.

We also found that people who are educated in communicative fields of study, which exemplify social interaction and responsibility, are more tolerant. More specifically, they express equality-based attitudes on the gender division of household and labor market tasks, often vote for left-wing political parties, and are overrepresented among the active members of voluntary organizations. We suggest that communicatively oriented fields of study address social skills, which makes students aware of other people's standpoints and motives, thereby broadening students' horizons and socializing them to value and accept divergent standpoints.

Our findings lead to four more general considerations. First, we think our results underscore the importance of taking field of study into account in research on social inequality. Including field of study, along with education level, provides a more comprehensive picture of the contribution of education to the explanation of social inequality in life chances in modern Western societies. Moreover, by distinguishing four types of resources that are differentially acquired in various fields of study on all educational levels, we gain additional insight into the distribution of cultural, economic, communicative, and technical educational resources and in the specific opportunities they provide.

Second, we believe that the distinctive effects of educational resources are partly mediated by occupational positions. In other words, a culturally educated person appreciates highbrow culture, not simply because of his or her field of study, but because of his or her occupation. The research strategy followed here allowed us to evaluate the extent to which occupational status explains the total effect of field-specific educational

resources. About 10-25 percent of the effects of educational resources on consumption patterns are indirect through occupational status. However, most of the educational resources effect is direct, underscoring the importance of introducing field-related educational resources into the analyses. Occupational status explains even less of the effect of field-related resources on sociopolitical outcomes; the effects of the communicative educational resources are of the same magnitude whether or not occupational status is controlled.

Third, we note that we measured but a small slice of life chances. Although our measures were constrained by the available data, we believe that we paid attention to three of the most important potential consequences of educational inequality. This does not mean, however, that our list of dependent variables is comprehensive; it seems likely that other interesting types of behaviors or attitudes can be partly explained by a distinct acquisition of cultural, economic, communicative, and technical educational resources as well. Augmenting the list of explainable outcomes does not change the arguments made here. Rather, such an extension would provide further tests of the same arguments. For example, the arguments for tolerance developed in communication-oriented fields of study suggest that people who were trained in these fields may also be tolerant when it comes to euthanasia and abortion, the redistribution of wealth, or sexual preferences. Likewise, adjacent types of technical leisure behavior could be studied to obtain more insight into the non-labor market returns to technical fields of study.

Fourth, our results pertain to the Netherlands, a country with a high level of educational specialization. Can our conclusions be generalized to other countries with distinct educational systems? We would expect international comparisons to find more or less similar patterns of effects. Since our argument is guided by an investment approach, which predicts returns to educational choices, there is no reason to believe that these returns will be lower in countries with less specialization. In contrast, it may be that they are of greater value in those coun-

tries because field-specific resources are more scarce. In countries with less specialization at the lower educational levels, field differences may also pay off in terms of occupational status, consumption patterns, and sociopolitical orientation. For example, Smith (1995) showed that in the United States, cultural behavior is strongly linked to training in the humanities, whereas tolerant attitudes are found among socially trained individuals. Future research, however, should make clear if and how the returns to investments in field-related educational resources differ among countries.

NOTES

1. In focusing on parental background factors, we may understate the importance of individual differences in personality. According to Holland (1985; see also Smart, Feldman, and Ethington 2000), people select schooling and work environments on the basis of their personality traits. We cannot test whether Holland's six personality types (realistic, investigative, artistic, social, enterprising, and conventional) influence selection into fields of study as well as the social outcomes we consider. However, the FSDP 1998 does contain information on other personality traits that are widely acknowledged in psychology (Digman 1990): extroversion, emotional instability, openness to new experiences, conscientiousness, and friendliness. Analyses not reported here provide scant evidence for selection on the basis of these traits. Controlling for individual personality characteristics yielded few changes in statistical significance or the magnitude of effects. A minor exception is being active in do-it-yourself activities, which was significantly negatively affected by cultural resources once we controlled for personality, whereas no effect is reported in Table 5.

2. Four factors were obtained that are interpretable in terms of the four proposed types of resources; all items belonging to one type of resource had the highest loadings on one factor, while other items had higher loadings on other factors. Cronbach's alphas between 0.70 and 0.83 confirmed the reliability

of the scales. The results of this analysis, as well as of other parts of the scaling procedure, are available from the authors on request.

3. We validated our scales by interviewing 15 experts on the Dutch educational system (5 educators, 7 sociologists, and 3 study advisers). These experts were asked to evaluate the extent to which attention is devoted to the same 16 kinds of knowledge and skills in the various fields of study. High interexpert reliability (a Cronbach's alpha of over 0.90) indicates that there was a high degree of consensus among experts about the skills and knowledge taught in different fields. The experts ranked fields of study according to the four types of resources comparable to the individual respondents from the Dutch sample. In absolute numbers, the experts gave slightly higher values than did the respondents, but the relative position of fields of study was more or less the same. Correlations between respondent scale values and expert scale values are high and vary between 0.86 for economic resources and 0.97 for technical resources. We therefore conclude that our ranking based on the respondents' self-reported knowledge and skills provides a valid measure of resources acquired through education.

4. Bivariate correlations between the scales, after people with only a primary education were assigned the score of 1, are as follows:

	Economic	Communicative	Technical
Cultural	.17***	.63***	.02
Economic		.37***	.35***
Communicative			-.01

5. We did not include parental educational and occupational level in our models. In separate analyses not presented here, these characteristics had small effects on our dependent variables once the four types of background were taken into account. In other words, controlling for the present four background characteristics captures the effect of parental education and occupation almost entirely. Furthermore, including parental education and occupation does not affect the impact of field-of-study resources, which was the reason to control for parental background. We chose to rely on the four types of background

because each type of background is hypothesized to be related to one of the four types of resources, and these background characteristics themselves are important in explaining children's acquisition of field-related educational resources (Van de Werfhorst, Kraaykamp, and De Graaf 2000).

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