

Economic achievements of nonacademic parents and patterns of enrollment in higher education of their children: the case of Israel

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Abstract This paper sheds new light on horizontal stratification in higher education by studying, in the Israeli context, the choice of institution and field of study of sons and daughters of nonacademic economically established parents. These youngsters wish to reproduce their parents' economic capital, but also to legitimize their social position by acquiring higher education. They can achieve this by studying lucrative professions. We hypothesize that less able children of these parents will use their parents' economic assets to study lucrative fields in the expensive but non-selective private colleges. Since underprivileged women tend to make instrumental choices of field of study, our hypothesis refers to both genders, despite women's well-reported tendency to study non-lucrative fields. The sample consists of 8036 Israeli first-year students in 2014. The analysis is based on a multinomial logistic regression, with the combination of institution and field as the dependent variable. The major findings are as follows: (1) Daughters of nonacademic wealthy parents are unique in their tendency to study lucrative fields; (2) The private colleges enable academically disadvantaged sons and daughters of nonacademic wealthy parents to study business and law, two lucrative fields; (3) These colleges are these women's only option to study a lucrative field, because they refrain from studying lucrative fields in the public colleges, which concentrate on STEM (science, technology, engineering, and mathematics) subjects; (4) When equipped with high credentials, children of nonacademic wealthy parents, men and women, prefer to study lucrative fields in the prestigious universities.

Keywords Horizontal stratification · Socioeconomic status · Gender · Fields of study · Institution type · Multinomial logistic regression

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Introduction

The expansion and diversification of higher education in many countries in recent decades has added a new focus to the research on inequality in higher education. Traditional research, which concentrated on the vertical dimension, access to higher education, has been augmented by increasing interest in the horizontal aspect: stratification within higher education (see, for example, Reimer and Jacob 2011; Shavit et al. 2007). This interest is based on sociological approaches claiming that the opening of new educational opportunities to disadvantaged groups is accompanied by differentiation within educational levels, thereby producing new, horizontal sources of stratification (Lucas 2001).

Stratification within higher education has two major sources, institution type and field of study. Much of the research on inequality in these two dimensions concentrates on socioeconomic background (or class of origin), gender, ethnic origin, and, sometimes, on their interactions. In analyzing socioeconomic inequality, the research on horizontal stratification, like most stratification research, views its two major components, education and wealth, as complementary. A good example is the literature on first-generation college students (e.g., Perna 2000). It focuses on the social and economic difficulties of first-generation students in higher education, disregarding the possibility that some of them may come from economically established families. Our purpose in this paper is to refine this research by focusing on a neglected group: the children of poorly educated but economically successful parents. These parents own economic capital but are short of cultural capital. Our purpose is to test whether students who originate from families who bear this profile exhibit unique patterns of participation in higher education. This research question is based on previous research showing that the parents' capital is linked to the educational choices of their children (e.g., van de Werfhorst et al. 2001). Due to the centrality of gender in the choice of field of study (e.g., Legewie and DiPrete 2014), we ask whether the combination of high economic capital and low cultural capital produces unusual patterns of gender inequality.¹

We will continue as follows: after a brief review of the literature on horizontal stratification in higher education referring to socioeconomic background, gender, and their interaction, we will elaborate on the separation of the two components of socioeconomic background. We will then present the Israeli setting, the hypotheses, the sample, and the method. This will be followed by a presentation of the findings, and we will conclude by discussing their implications.

Socioeconomic background and horizontal stratification

The research on socioeconomic inequality within higher education refers to both institution type and field of study. The research that focuses on the hierarchy of higher education institutions presents clear results. It shows that members of underprivileged groups enroll more often in less prestigious and less selective institutions (Ambler and Neathery 1999; Bastedo and Jaquette 2011; Karen 2002; Shavit et al. 2007). This pattern is due, to a large degree, to the lower academic achievements of students from a disadvantaged background, which prevents them from meeting the demands of the selective first-tier institutions. Still, part

¹ Because ethnic origin is less relevant to our study, as we will show later, we refer to this source of inequality, but do not focus on it.

of the link between socioeconomic background and institution type persists after previous achievements are controlled for (Ayalon and Yogev 2005; Davies and Guppy 1997; Karen 2002). This may imply that students of different strata could have different tastes in choosing a higher education institution (Ayalon and Yogev 2006). It may also imply that aspects of cultural capital which are not measured by ability scores operate in favor of privileged students. Bastedo et al. (2016) suggest, for example, that, in the USA, privileged students receive better guidance regarding the requirements of the admission offices of the prestigious higher education institutions. The differences between the various explanations notwithstanding, the research agrees on the clear link between socioeconomic background and type of higher education institution.

The results of the research on socioeconomic (or class) inequalities in fields of study are less straightforward. Several American studies report that the lower classes make instrumental choices of field of study; they view higher education as a channel of social mobility and choose to study lucrative professions (Goyette and Mullen 2006; Xie and Goyette 2003). Similar results were obtained for the Netherlands, where children of a lower-class background were overrepresented in economically rewarding fields (van de Werfhorst et al. 2001). In Scotland, Iannelli et al. (2011) report on some tendency on the part of students of a lower social background to choose lucrative fields. They assign this result to the fact that the less prestigious institutions concentrate on lucrative fields.

Several American studies show a more nuanced picture. Davies and Guppy (1997) found that students of a higher socioeconomic background and those with more cultural resources were more likely to enter selective universities and lucrative fields within them. Goyette and Mullen (2006) report that children of privileged social groups are inclined to study liberal arts, which require high levels of cultural capital. Following Bourdieu and Passeron (1990), they suggest that liberal arts help students maintain their privileged position in the social structure. Contrary to that, Brint et al. (2005) show a general trend of reduction in the proportion of students who study liberal arts in favor of more practical fields.

Weak correlations between socioeconomic background and choice of field were obtained by several European studies. This pattern is reported by Jackson et al. (2008), who studied France, Germany, the UK, and the Netherlands, by Reimer and Pollak (2010), who studied Germany, and by Triventi (2013), who conducted a comparative study of 11 European countries.

These studies indicate that, whereas social inequality in the choice of higher education institution is clear, it is either limited or nonexistent regarding choice of field of study, and, sometimes, it even operates in favor of the disadvantaged groups.

Gender and horizontal stratification

Gender is not a major factor in the analysis of inequality in the choice of higher education institution and most research does not report significant gender differences in institution type. Some American studies, however, do report an advantage of men in enrolling in elite institutions. Jacobs (1999), Jacob (2002), and Mullen and Baker (2015) attribute the gender gap in attending selective institutions to the fields of study offered by the different institution types. Selective institutions are much more likely to offer engineering fields, which are less appealing to women. Some studies suggest that the advantage of males disappears after academic ability is controlled for (Davies and Guppy 1997; Jacob 2002). Jacob assigns this

results unusual to the better achievements of men in the mathematical part of the SAT. Karen (2002) also reports a small advantage of men in attending selective institutions, which, contrary to the previously mentioned studies, appears only after academic ability is controlled for. Karen interprets this result as indicating that, when children are similarly able, parents tend to encourage their sons rather than their daughters to enroll in selective colleges. Persell et al. (1992) refer to the interaction of gender and socioeconomic background. These authors report that the gender gap in favor of men is significant among graduates of public high schools, but is much smaller among graduates of private boarding schools, who usually belong to privileged groups. This implies that the advantages of privileged groups in enrollment in elite institutions blur gender differences. To sum, the research on gender inequality in institution type reports on some advantage of men in enrolling in elite institutions, which is mainly due to the fields of study offered by the institution and mathematical ability.

Contrary to its marginality in the research on inequality in institution type, much of the research on inequality in fields of study has focused on gender. This is probably due to the well-known phenomenon of gender occupational segregation in the labor market, and to the link between field of study and occupational plans and achievements (e.g., Mullen 2014). The results of this line of research show that women tend to concentrate on non-lucrative fields, such as the humanities and social sciences, while men prefer economically rewarding fields, such as engineering and business (Alon and Gelbgiser 2011; Bradley 2000; Charles and Bradley 2009; Davies and Guppy 1997; Goyette and Mullen 2006; Legewie and DiPrete 2014). Recent research reports on the narrowing of the gender gap in some lucrative fields, such as law, business, and medicine, but not in the mathematically oriented STEM (science, technology, engineering, and mathematics) subjects (e.g., England 2010; Mann and DiPrete 2013; Smith 2011).

The above-mentioned studies did not refer to the effect of socioeconomic background on gender inequality in fields of study. The relatively limited research on this topic reveals the significance of this intersection in the shaping of horizontal stratification in higher education. It appears that women of disadvantaged origin make less traditional choices than their more privileged counterparts. This pattern is often assigned to the supposition that women of different strata base the choice of field of study on different motivations. Whereas privileged women seek intrinsic rewards such as self-fulfillment and academic interest, their less privileged counterparts, who aspire for social mobility, are mainly motivated by career considerations. This supposition has received support from several studies. Mullen (2014) performed in-depth interviews with students in an elite liberal arts American university. She reports that, in specifying their reasons for choosing majors, disadvantaged women resemble men (of both low and high socioeconomic backgrounds) in basing their choice on instrumental considerations. They differ in this aspect from more privileged women, who underscore personal development. Ma (2009), who investigated actual choices of field, shows, in the USA, that gender inequality varies according to socioeconomic background. Inequality is significant among privileged students, but not among their less privileged counterparts. Ma explains this result by the general tendency of men to choose lucrative fields, whereas such fields (e.g., technology, life/health science, business) are mainly preferred by women from a disadvantaged background. These findings lead Ma to conclude that, for disadvantaged women, socioeconomic background seems to reduce the continuing effects of gender role socialization. In accordance with this conclusion, Leppel et al. (2001) report, in the USA, that women of lower socioeconomic strata, who aspire for social mobility, study business more than privileged women.

These results suggest that socioeconomic background affects gender inequality in the choice of both higher education institution and field of study, implying that the intersection of gender and background should be an integral part of the research on horizontal stratification in higher education.

The separation of the two components of socioeconomic status

The above-mentioned studies did not separate the two components of socioeconomic background. A few studies have distinguished between education and wealth, hypothesizing that each differently affects the choice of field of study. van de Werfhorst et al. (2001) distinguished, in the Dutch context, between economic and cultural elites, and report that children from each elite selected fields where they could reproduce their family capital. van de Werfhorst et al. (2003) refer, in the British context, to “the two dimensional space of social status” (p. 4), but do not analyze these dimensions separately. The existing research, therefore, lacks empirical results on the patterns of participation in higher education of children of economically successful but poorly educated parents. We try to contribute to filling this lacuna.

The well-known link between education and economic returns prevailing in the labor market establishes education as the central channel for economic success. The centrality of education as the major channel of socioeconomic achievement notwithstanding, there are segments within the labor market that may be highly rewarding economically, yet are undemanding educationally. A typical example is the self-owned enterprise, which enables economic success without posing demands for educational credentials. Due to this reality, individuals can achieve a respectable social position via the alternative route of economic success, bypassing the central channel of schooling (Yuchtman-Yaar 1986). Yuchtman-Yaar showed, in the Israeli context, that *Mizrachi*, the Jewish disadvantaged ethnic group, overcame their educational deficiencies by initiating their own businesses. Ayalon and Yuchtman-Yaar (1989) showed that, in Israel, ambitious vocational-track male students, whose chances of acquiring higher education were restricted, aspired to occupations that did not require much schooling, yet generated high income due to their potential for self-owned enterprise, such as contractors and hairdressers. Following Blalock (1967) and Edwards (1973), who analyzed professional sports in the USA as a means of social mobility that bypasses educational barriers, Yuchtman-Yaar and Semyonov (1979) showed that professional soccer served as an alternative mobility channel for Israeli youngsters of *Mizrachi* origin.

The studies documenting the economic mobility channel in Israel were carried out in the 1980s and we do not intend to study whether this reality is still true today. Rather, we are interested in the educational careers of the children of parents that used the economic channel to achieve a respectable social position.

The educational careers of these children are intriguing. Economic wealth is well regarded and income is a primary determinant of occupational prestige in Israel, as elsewhere (Semyonov et al. 2000). Still, education is the major channel of status attainment, and occupations characterized by high educational levels are located at the top of the prestige hierarchy (ibid). It is, therefore, necessary to acquire education in addition to economic success to fully legitimate a high position in the social structure. To achieve that, one has to enroll in higher education. An academic degree can promise a high position in the educational hierarchy, but not necessarily in the economic one, as fields of study vary in their expected economic returns. If we accept the notion that people’s educational choices are governed by

their desire to avoid downward mobility (Boudon 1974; Breen and Goldthorpe 1997), we may assume that children of parents who acquired their social position via economic success may aspire to higher education, but not as a substitute for their parents' economic position. As noted above, students indeed tend to choose fields that help them reproduce their family capital (van de Werfhorst et al. 2001). The combination of upward educational mobility and reproduction of the family economic capital can be achieved by studying economically rewarding fields in higher education.

The economically rewarding fields of study are the professions that are clearly linked to the labor market, such as engineering, law, and business. This is true for Israel (Ayalon and Yogev 2005; Feniger et al. 2015), as well as for many other countries (see, for example, Gerber and Schaefer 2004 for Russia; Gill and Leigh 2000 for the USA; Kalmijn and van der Lippe 1997 for the Netherlands; Iannelli et al. 2011 for Scotland). In Israel, the lucrative professions are also the most attractive fields of study. Since the selectivity of fields in Israeli universities is based on supply and demand, these fields are also the most selective, with particularly high admission requirements and high rejection rates (Ayalon and Yogev 2005). In Israel, as in many other countries, the family cultural capital, usually measured by parental education, is a major predictor of success in primary and secondary education and in the exams that are used by the universities as selection criteria (e.g., Ayalon and Shavit 2004). The deficiencies in cultural capital, when accompanied by low achievements in school, may convince children of poorly educated parents who wish to study economically rewarding fields to avoid higher education, for at least two reasons. First, selective fields are usually perceived as difficult and demanding, and may consequently be viewed as too risky for students with frustrating educational histories. People avoid educational choices that carry a high probability of failure (Breen and Goldthorpe 1997; Gabay-Egozi et al. 2010). The second reason is practical; low achievers are unable to meet the admission requirements of the departments that teach the professions. This picture was true for the Israeli higher education system in the past, when it consisted mainly of research universities. The expansion and diversification of the Israeli higher education system, which started in the early 1990s, changed that reality.

The expansion and diversification of higher education in Israel and choice of field

The expansion and diversification of Israeli higher education followed the establishment of degree-granting institutions, which are not allowed to be called universities and have been assigned the name *michlalot*, usually translated as colleges. The colleges are less selective, less research-oriented, and less prestigious than the universities, and are usually viewed as the second tier of higher education (Ayalon and Yogev 2006; Volanski 2005). The establishment of the colleges was followed by debates on their possible contribution to the decrease of inequality in higher education (Ayalon and Yogev 2006). Such debates are common in countries that have experienced expansion in higher education (Shavit et al. 2007). These debates have concentrated on two questions: (a) whether expansion will reduce inequality in enrollment in higher education and (b) whether the new population that may join higher education will receive a second-rate education in the second-tier institutions.

Although all Israeli colleges are viewed as the second tier of higher education, there is significant internal variation among them (Ayalon and Yogev 2006). The major sources of variation are private versus public ownership and fields of study. Unlike the Israeli universities,

which are all public, some of the colleges are privately owned and charge high tuition fees. The lucrative professions are offered mainly (but not exclusively) by the private institutions (Ayalon and Yogev 2006).

The partial privatization of higher education, combined with the fact that the private colleges offer mainly lucrative professions, has drawn much criticism. The major argument is that privatization increases the opportunities of the privileged by offering lucrative professions to those who can afford the high tuition fees (Swirski and Swirski 1997). Lavie (2008) argues that privatization increases inequality in educational opportunities by adding economic stratification to the achievement stratification that already existed in the Israeli higher education system. This criticism stems, at least partly, from the common tendency to view the two dimensions of socioeconomic status as positively associated; the economically established, who can afford to send their children to the private colleges, are perceived as part of the traditional clientele of higher education. This criticism overlooks the multidimensionality of stratification. Private institutions, which need students who can afford to pay the high tuition fees, tend to be less selective academically (Arum et al. 2007). As such, they may offer new opportunities for populations that have achieved economic success, but are underprivileged in terms of education. The private institutions may, therefore, open the gates of higher education to populations that were previously excluded from it. Children of parents who used the economic channel may use their family's assets to legitimize an elite position—a high location in both the educational and economic hierarchies.

Hypotheses

Following the above rationale, this study examines the choice of institution and field of study of children of parents who used the economic channel to acquire a respectable social position in the expanded and diversified Israeli higher education system.

More specifically, we study the following hypotheses:

Hypothesis 1. Less able sons and daughters of poorly educated but economically established parents tend to study lucrative professions in the colleges in general and in the private ones in particular.

Hypothesis 2. When equipped with high credentials, children of nonacademic wealthy parents will prefer to study lucrative fields in the prestigious universities, although this preference may be less clear-cut than that of high achievers who have academic parents.

Data and method

The study was based on a survey conducted in 2014 on a multistage stratified representative sample of first year students in 21 colleges and the six major universities. The survey data included students' sociodemographic characteristics, details of their current education (institution and field of study),² and their educational history (high school track and achievements in exams that serve as selection criteria for higher education). We decided to study first year

² In Israel, students enroll in specific fields of study from the very beginning.

students because we were interested in the choices of the students, whereas degree completion is affected by various factors besides choice.

The target population is the first-year students majoring in one of the main fields of study offered by both the colleges and the universities (about 48,000 students). We started by listing all institutions that offered at least one of the eight major fields of study provided by both colleges and universities: education and teaching, engineering and computer sciences, business and economics, arts, law, behavioral sciences, and social sciences.³ Within each field, we conducted an internal sampling according to institution type (university, public general college, private college, and public teachers' college) and geographic location (north, center, and south), so that all types of institutions and the different geographic areas were represented in the sample. Within each sampled institution, we randomly selected first-year compulsory courses in the selected fields of study. We sampled all students in these courses. Thus, the sample does not represent the Israeli education system, but, rather, the major fields of study that are offered in both the universities and the colleges.

The survey was based on an anonymous questionnaire which comprised mainly of closed items. The respondents answered the questionnaire while attending one of the first-year compulsory courses. After excluding uncompleted questionnaires and inappropriate respondents (second-year students participating in first-year courses), the final sample was 8036 students. It represents 17% of the target population.

Variables and method

Dependent variable

The dependent variable is a combination of institution type and field of study. Following the theoretical approach, we concentrate on three institution types: university, public college, and private college. We are aware of the internal differentiation within the universities and particularly the college types (see Ayalon and Yogev 2006). Still, further differentiation of the college types could create a much more complicated dependent variable. The fields of study are dichotomized into lucrative and non-lucrative. The major fields that belong to the first category are engineering, computer sciences, economics, business, architecture, and law. The major fields that compose the second category are social sciences, art, education, and teaching. The categorization is based on studies that investigated the economic returns of the fields of study (Feniger et al. 2015). The combinations yield six categories: lucrative and non-lucrative fields in each of the three institution types.

Explanatory variables

- *Nonacademic parents*: A dummy variable coded 1 if both parents did not acquire academic education, 0 otherwise.
- *Parental income*: Determined in answer to the question: "The mean monthly family income is around 14,600 NIS (about US\$4000, the gross monthly income per household in 2011). Is your parents' income much below the average, below the average, about the

³ About 94% of the first-year students study these fields in the colleges and 61% in the universities (Israel Central Bureau of Statistics, ICBS 2014).

average, above the average, or much above the average?” In the statistical analyses, the variable was dichotomized into “high” (above the average) and “low” (the average and below it).⁴ We preferred to analyze the dichotomized variable, on the assumption that evaluation that is based on the respondents’ answers is more accurate when dichotomized.

- *Nonacademic parents with “high” income*: The category that is at the center of the study is coded 1, otherwise 0.
- *Matriculation score*: Reported by the respondent. Weighted by us according to the formula used by most universities. The scores range between 0 and 120.
- *Psychometric score*: The psychometric test is an ability test required by the universities and some of the colleges. The scores range from 200 to 800. The original score, which was reported by the respondent, was divided into three categories: (1) did not take the test or is missing, (2) “low and medium” – 200–599, and (3) “high” – 600–800. We preferred to use a categorical variable in order to include those who did not take the test, which constitutes 27% of the sample.
- *Matriculation type*: A dummy variable coded 0 for a regular certificate and 1 for a university-qualifying certificate (which includes a pass in mathematics, a pass in advanced English and in an additional advanced subject).

Control variable

Ethnicity Due to the differences between Jews and Arabs in higher education and the labor market, we include in the analysis a dummy variable coded 1 for Jews, 0 for Arabs. There is remarkable inner differentiation among the subgroups that compose each of these categories. However, a preliminary test showed that the various subgroups act similarly regarding the choices of children of non-educated wealthy parents. To simplify the analysis, we have decided to use the dichotomy as the control variable.

Method

The analysis is based on multinomial logistic regression, with the combination of institution type and field as the dependent variable. Multinomial regression estimates the odds of respondents with a certain characteristic (e.g., men) to belong to each category of the dependent variable compared to the reference category.⁵ The combination of lucrative field in a private college, which is at the center of the hypotheses, serves as the reference category. The model includes the explanatory and control variables, an interaction between gender and *nonacademic “high” income*, and the two-way interactions between these variables.

⁴ The original distribution is as follows: much below the average: 8.9%; below the average: 17.4%; average: 28.8%; above the average: 37.1%; much above the average: 7.9%.

⁵ $odds(j/J) (xi) = \frac{p(y=j/xi)}{p(y=J/xi)}$ where j represents the categories of the dependent variable; J represents the reference category; xi represents the explanatory variables. The multinomial regression coefficient (β) is the ratio of the odds of two different categories of xi (e.g., men versus women). It is estimated by Newton–Raphson maximum likelihood. The analyses used sampling weights to adjust for the sampling design.

Results

Descriptive picture

Table 1 presents the distribution of men and women according to selected characteristics among the various combinations of institution type and field of study. The table demonstrates the uniqueness of the group that stands at the center of this study: children of nonacademic wealthy parents. About 36% of the students bearing this profile study lucrative fields in the private colleges (compared to 19% of the women and 26% of the men in the whole sample). All other links are in the expected direction. In all comparisons, men outnumber women in the lucrative fields, and women outnumber men in the non-lucrative ones. Children of nonacademic parents are overrepresented in the colleges and children of academic parents in the universities. This is true for both genders. University students have better previous achievements than college students. This is demonstrated by the type and the score of the matriculation diploma and the category of the psychometric certificate. In all combinations of institution type and field, women have higher matriculation scores than men. Arab students, particularly women, exhibit a higher tendency than their Jewish counterparts to study non-lucrative fields, mostly in the public colleges.

Predicted probabilities

As noted, the analysis is based on a multinomial logistic regression. There is a general shortcoming when presenting the results of a multinomial model, in that the coefficients are always relative with respect to the base category. Furthermore, in the multinomial models, we report net effects of the various variables when, in fact, the variables are correlated with each other. In order to illustrate the interaction terms and the cumulative effects of the variables and to provide more illustrative interpretations of the nonlinear multinomial model, we transform the coefficients of the multinomial logistic regression to predicted probabilities of enrollment in the various categories for selected profiles⁶ (the results of the multinomial model appear in the [Appendix](#)). The profiles are based on the four combinations of parental education and income. We present the predicted probabilities for two types of students: (a) Low achievers in high school (students with an average matriculation score, a regular matriculation certificate, and low psychometric score). This profile serves to test hypothesis 1, which refers to students who wish to study lucrative fields but cannot meet the demands of the universities. (b) High achievers in high school (students with a university-qualifying diploma, high psychometric score, and a matriculation score which is one standard deviation above the mean). This profile serves to test the second hypothesis, which states that highly able children of nonacademic wealthy parents will follow the pattern of high achievers and prefer to study lucrative fields in the universities. Since the number of Arab students who are children of nonacademic wealthy parents is very small (18 men and 48 women), we present the probabilities for Jewish students.

The predicted probabilities for the low achievers are presented in Fig. 1. The figure shows the probabilities of the four combinations of parental education and income of studying lucrative or non-lucrative fields in the three institution types, separately for men and women.

⁶ The probability of observing outcome m given x is expressed as: $\Pr(y_i = m | x_i) = \exp(x_i \beta_m) / (1 + \sum_2^J \exp(x_i \beta_j))$ where β_j is a vector of coefficients of the multinomial regression; x_i : a vector of explanatory variables.

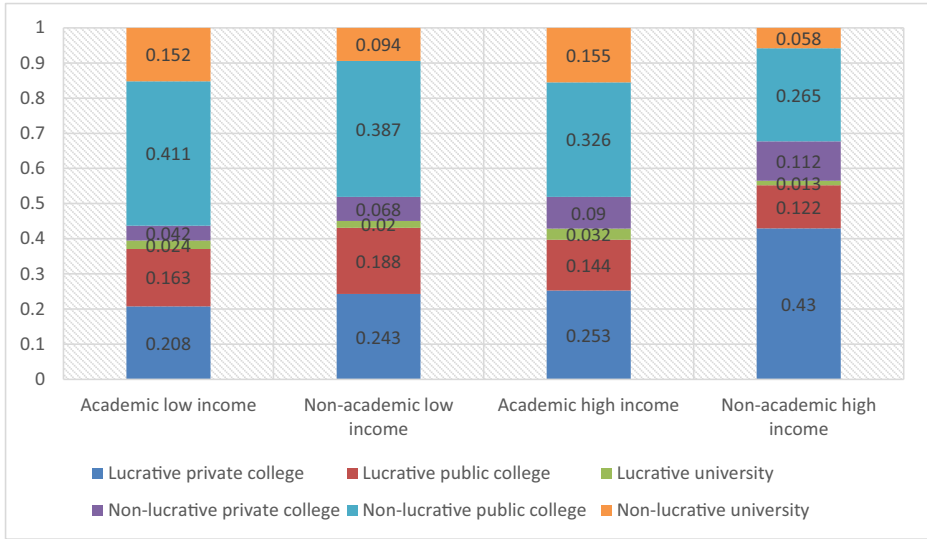
Table 1 Distribution of the respondents among the combinations of institution type and field, according to selected characteristics, shown as percentages

	Lucrative private college	Lucrative public college	Lucrative university	Non-lucrative private college	Non-lucrative college	Non-lucrative public university	Total (N)
Nonacademic parents							
Women	15.4		7.0	4.7	40.3	8.5	1912
Men	38.0		16.1	1.44	11.4	4.3	1230
Academic parents							
Women	12.9		17.5	3.2	31.7	19.2	2773
Men	26.5		31.7	0.9	9.4	8.0	1999
Parents with "high" income							
Women	12.0		17.7	4.6	26.9	17.5	1902
Men	23.4		30.5	1.1	8.0	8.3	1493
Parents with "low" income							
Women	15.8		9.1	3.4	41.8	12.4	2546
Men	38.4		20.7	0.8	12.6	5.2	1613
Nonacademic parents with "high" income							
Women	13.0		7.2	6.0	30.6	7.5	533
Men	30.3		16.7	2.4	8.6	5.3	370
University-qualifying diploma							
Women	15.0		15.4	3.2	33.8	16.1	3454
Men	30.4		29.7	0.7	9.5	7.4	2302
Regular matriculation diploma							
Women	12.0		6.3	5.5	39.7	10.0	1188
Men	33.6		15.8	1.9	12.3	4.4	905
No psychometric test							
Women	10.5		3.1	6.3	45.4	4.6	1374
Men	29.1		7.6	2.7	15.3	2.3	761
Low and medium psychometric score							
Women	18.1		2.9	4.4	45.8	12.7	1401
Men	41.9		4.9	1.1	14.5	10.0	716
High psychometric score							
Women	14.2		31.0	1.14	16.4	12.7	1953
Men	27.1		44.7	0.2	5.5	4.0	1784
Jews							
Women	14.1		13.0	4.4	33.8	14.2	4210

Table 1 (continued)

	Lucrative private college	Lucrative public college	Lucrative university	Non-lucrative private college	Non-lucrative public college	Non-lucrative university	Total (N)
Men	25.7	31.0	26.0	1.2	9.4	6.8	3009
Arabs							
Women	10.3	14.7	10.4	0.1	48.6	16.0	518
Men	24.3	32.6	18.8	0.4	20.0	3.8	252
Whole sample							
Women	19.4	14.1	12.8	3.9	35.4	14.4	4728
Men	25.6	31.1	25.5	1.1	10.2	6.5	3261
Means							
Matriculation score							
Women	94.0	94.6	104.1	92.1	93.1	100.4	95.9
Men	91.7	91.9	102.0	89.3	90.5	98.5	94.7
No.							
Women	478	922	814	206	1421	887	4728
Men	422	1268	941	36	344	250	3261

A Women



B Men

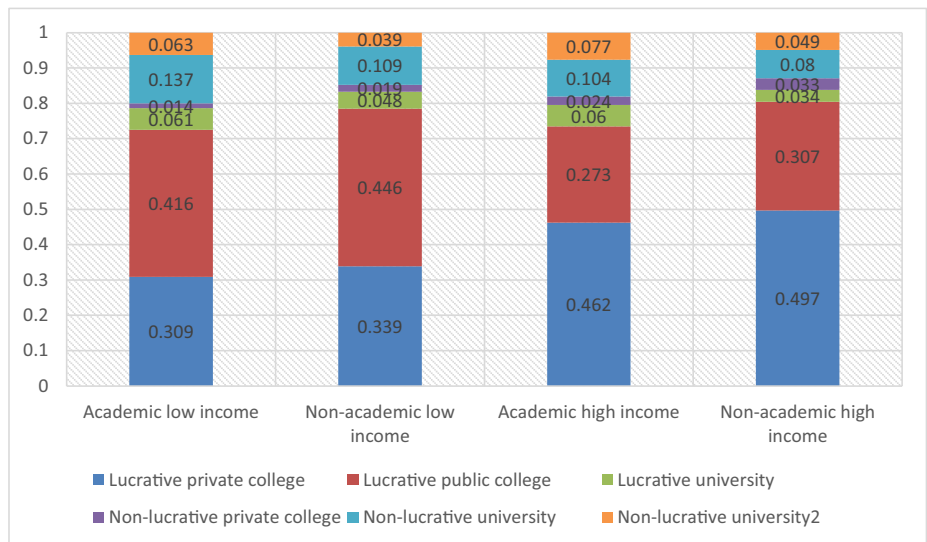
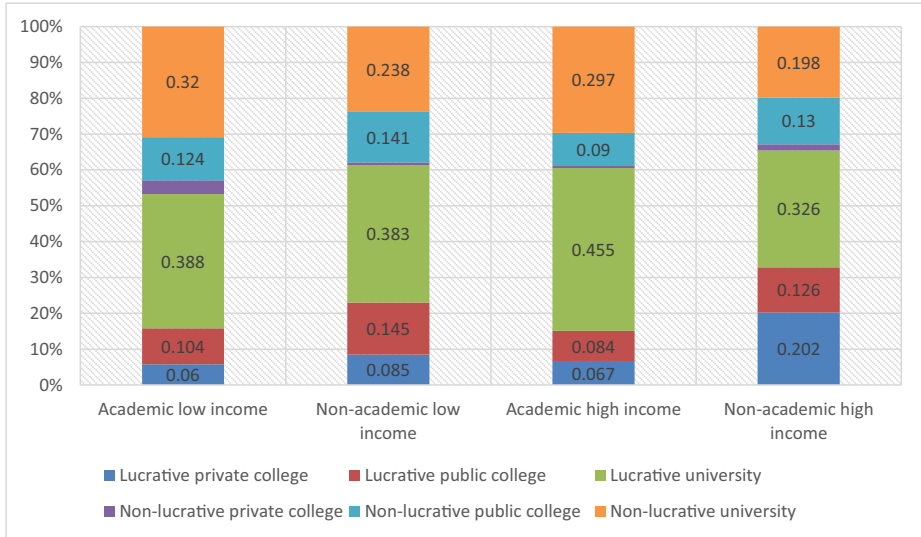


Fig. 1 Predicted probabilities of studying the combinations of institution type and field for various profiles of less able students

The figure demonstrates the high tendency of low-achieving children of nonacademic wealthy parents to study lucrative fields in the private colleges. The predicted probability for both genders is above 0.40. This result marks the less able daughters of nonacademic wealthy parents as a unique female group in utilizing the private colleges in order to study lucrative fields. The parallel predicted probabilities of all other profiles of less able women are much lower (between 0.21–0.25).

A Women



B Men

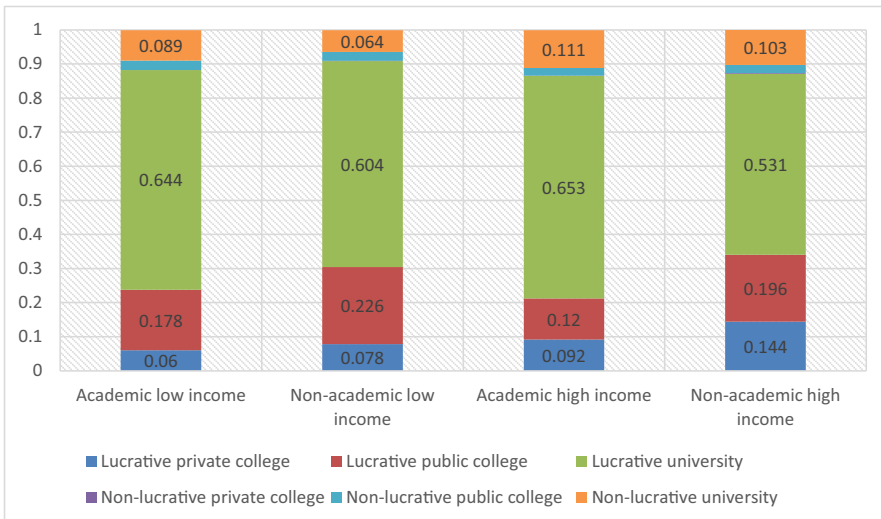


Fig. 2 Predicted probabilities of studying the combinations of institution type and field for various profiles of highly able students

Less able daughters of nonacademic wealthy parents are also unique in their relatively low tendency to study non-lucrative fields in all institutions. Their total predicted probability of studying non-lucrative fields is 0.44. The parallel probabilities of the other combinations of parental education and income are higher (between 0.55 and 0.61). Less able daughters of nonacademic wealthy parents are not unusual in their low probability to study lucrative fields in the public colleges (0.12). The probabilities of all other profiles of less able women studying

this combination are somewhat higher, but still very low (between 0.14 and 0.19). The picture is different for men. The probability of less able sons of nonacademic wealthy parents of studying lucrative fields in the public colleges is relatively high (0.31). As expected, all profiles of less able men have a high probability (around 0.80) of studying lucrative fields, mainly in the colleges.

Less able sons and daughters of nonacademic wealthy parents are similar in their tendency to study lucrative fields in the private colleges, but exhibit a significant gender gap regarding their tendency to study lucrative fields in the public colleges. This pattern is intriguing. It is not surprising that men with low certificates prefer lucrative fields in the colleges, either private or public. But how can we explain the fact that daughters of nonacademic wealthy parents, who have a high probability of studying lucrative fields in the private colleges, refrain from studying them in the public ones? We believe that the answer lies in the different lucrative fields offered by the two college types. The major lucrative fields offered by the private colleges are business and law, whereas the public colleges focus on the mathematically oriented engineering and computer sciences.⁷ Business and law appeal to both sons and daughters of nonacademic wealthy parents: about 46% of the students bearing this profile study these fields. Gender differences are prominent in studying engineering and computer sciences; 38% of the sons of nonacademic wealthy parents study these fields, compared to 10% of their female counterparts. It appears that less able daughters of nonacademic wealthy parents who deviate from the traditional “feminine” choice of field of study conform to women’s refrainment from studying mathematically oriented fields (see also Ayalon 2003).

All profiles, of men and women alike, have particularly low probabilities of studying in the universities. This is not surprising. The probabilities were computed for low achievers in high school, who cannot meet the demands of the universities, particularly regarding the lucrative fields.

The predicted probabilities for the highly able students are presented in Fig. 2. The figure shows that, when equipped with high credentials, all students, male and female, tend to make similar choices. All profiles prefer to study lucrative fields in the universities over all other options. This is also true for children of nonacademic wealthy parents, although their probabilities are somewhat lower than those of children of academic parents. Able daughters of nonacademic wealthy parents are less inclined than their less able peers to utilize the private colleges for studying lucrative fields. Their predicted probability of studying these fields in the private colleges (0.20) is higher than the parallel probabilities of other female profiles, but it is still low and below their probability of studying lucrative fields in the university (0.33).

Discussion

This paper has focused on a neglected aspect of horizontal stratification in expanded higher education systems: the choice of institution and field of study of children of economically established but poorly educated parents. The expansion of higher education in Israel followed the establishment of the academic colleges, often defined as second-tier institutions. These institutions offer a variety of fields of study, some of them prestigious and lucrative, but without being as selective as the veteran universities. We hypothesized that these new institutions have opened the doors of higher education to children of nonacademic parents who have achieved economic success. These children wish to replicate their families’ economic wellbeing, but also to

⁷ In our sample, about 94% of the students of lucrative fields in the private colleges study business or law. Almost all students of lucrative fields in the public colleges study engineering or computer sciences.

legitimize their status by acquiring higher education. That can be achieved by studying lucrative fields, which are very selective in the universities, but not in the colleges. Two major lucrative fields, business and law, are broadly offered by the private colleges, which charge high tuition fees. Children of parents who succeeded via the economic channel can utilize these colleges to convert their families' economic resources into educational achievements. On the basis of this logic, we tested the hypothesis that less able children of nonacademic wealthy parents, regardless of gender, tend to study lucrative professions in the private colleges.

Using multinomial logistic regression, we tested the hypothesis on a sample of about 8000 first-year students in 2014. The results reveal that analyzing education and wealth as two separate entities has two clear contributions: it reveals new aspects of horizontal stratification in higher education and of the intersection between gender and socioeconomic background. Less able children of nonacademic wealthy parents emerge as a unique group whose probability of studying lucrative fields in the private colleges is particularly high. Although this is true for both genders, it appears that the private colleges are more significant for women. Less able sons of nonacademic wealthy parents utilize the private colleges, but they further broaden their opportunities by studying lucrative fields in the public colleges. Women bearing this profile, like all other women, tend not to utilize this option. This probably stems from the concentration of the public colleges on mathematically oriented fields, such as engineering and computer sciences. Less able daughters of nonacademic wealthy parents deviate from the female pattern of studying non-lucrative fields, but they still exhibit women's reluctance to engage in STEM subjects, thus limiting their options of combining education and wealth as compared to their male peers.

The results show the unexpected role of the private colleges in the horizontal stratification of Israeli higher education. The partial privatization of Israeli higher education was heavily criticized as an additional mechanism of increasing inequality in higher education. The results show a different picture. Although their major purpose is economic rather than social, the private colleges, perhaps unintentionally, open the door to lucrative fields to students who are disadvantaged regarding parental education and high school history. Moreover, these colleges are particularly significant in opening the doors to lucrative fields to women, whose disadvantage in this respect is well documented.

High credentials blur the differences in the choices of the various profiles. This reveals the centrality of academic ability in the shaping of horizontal stratification. Abler students prefer the first-tier institutions, even when they are children of nonacademic parents. With the aid of some speculation, we suggest that the concentration of disadvantaged students in the colleges mainly stems from their inability to meet the high standards of the universities.

One major question that arises at this point is whether the children of the nonacademic wealthy parents complete their education and actually practice their fields of study in the labor market. Previous research, showing that the graduation rates in the private colleges are high and similar to those in the universities (Feniger et al. 2016), suggests that the answer may be positive for students in these colleges. The picture is less promising for students attending the public colleges, which are characterized by lower graduation rates (ibid). The actual response of the labor market to these graduates, however, requires further research.

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Appendix

Table 2 Multinomial logistic regression of institution type and field of study (logarithmic coefficients)

	Lucrative public	Lucrative university	Non-lucrative private	Non-lucrative public	Non-lucrative university
Gender: male	0.544** (0.198)	0.514* (0.220)	- 1.499*** (0.564)	- 1.492*** (0.214)	- 1.271*** (0.239)
Parental income: high income	- 0.316** (0.185)	0.061 (0.197)	0.569** (0.283)	- 0.426** (0.174)	- 0.174 (0.185)
Male*high income	- 0.508** (0.258)	- 0.476 (0.277)	- 0.436 (0.674)	- 0.252 (0.284)	- 0.036 (0.300)
Parental education: nonacademic	- 0.013 (0.171)	- 0.357 (0.205)	0.334 (0.276)	- 0.216 (0.163)	- 0.638*** (0.185)
Male*nonacademic	- 0.013 (0.245)	0.030 (0.310)	- 0.137 (0.691)	- 0.104 (0.280)	0.053 (0.342)
High income*nonacademic	- 0.686** (0.264)	- 1.083*** (0.316)	- 0.645 (0.382)	- 0.521* (0.248)	- 0.872** (0.294)
Male*high income*nonacademic	0.756* (0.379)	0.758 (0.448)	0.713 (0.915)	0.503 (0.440)	0.936 (0.497)
Ethnicity: Jewish	0.325 (0.189)	- 0.077 (0.222)	- 2.251** (0.780)	0.988*** (0.185)	0.352 (0.211)
Matriculation score	- 0.013** (0.004)	0.099*** (0.007)	- 0.012 (0.015)	- 0.022*** (0.004)	0.044*** (0.006)
Psychometric score (did not take the exam reference)	0.865*** (0.112)	0.394* (0.192)	0.193 (0.184)	0.304** (0.113)	1.421*** (0.163)
Low and medium (200–600)	1.384*** (0.119)	2.866*** (0.162)	- 0.696** (0.264)	0.142 (0.129)	2.551*** (0.166)
Matriculation type: university qualifying	0.416*** (0.104)	0.443** (0.134)	- 0.087 (0.180)	0.446** (0.108)	0.362** (0.132)
Constant	0.134 (0.458)	- 12.007*** (0.710)	- 0.677 (0.763)	2.506*** (0.454)	- 5.991*** (0.626)

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

The reference category is: lucrative field in private college

Standard errors are shown in parentheses

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