Diversification and Inequality in Higher Education:
A Comparison of Israel and the United States

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This article explores how the structure of higher education in the United States and Israel mediates the relationship among race/ethnicity, social origins, and postsecondary outcomes. On the basis of differences in how the two systems of higher education have developed, the authors anticipated that inequality in college attendance will be greater in Israel, while inequality in the type of college or university one attends will be greater in the United States. They found that students in the United States are more likely to attend college than are their Israeli counterparts. Contrary to their expectations, however, inequality in the chances of attendance is similar across these nations, if not slightly greater in the United States. Inequality in the types of institutions that students attend appears greater in the United States, but the contours of ethnic inequality in college destinations are markedly different across these two contexts.

Systems of higher education are constituted by a diverse array of institutions that vary in academic orientation, selectivity, cost and prestige.[1] This diversity is often perceived as a democratizing force, making higher education available to a varied population of students who differ widely in their interests and abilities (Dey and Hurtado 1999; Trow 1984). Critics, however, have argued that the diversification of institutions of higher education satisfies the public demand for higher education by providing inferior opportunities to those who are the least advantaged (Dougherty and Kienzl 2006; Karabel

1972; Karen 2002). In this article, we propose a middle ground. We maintain that the effects of diversification on inequality are conditioned by historical and institutional forces at the national level that mold the higher education system. Where expansion in higher education is accommodated by building new colleges and universities that are similar to those that predate them, we suggest that inequality in who attends a college or university at all is likely to be greater than inequality in the types of institutions that students attend. In contrast, where expansion is accomplished by creating institutions that dif-

fer in their missions and the credentials they grant from those that predate them, we anticipate that inequality in attendance is less salient than is inequality in the types of institutions that students attend.

In this article, we analyze the interplay between diversification and stratification in higher education by comparing socioeconomic inequality in higher education attendance and destination in Israel and the United States for those who complete secondary credentials. These two countries are among those with the highest levels of enrollment in higher education and completion of baccalaureate degrees in the world, and each is characterized by a hierarchical system of higher education. There are significant differences between the two countries in the structure of the field of higher education, particularly in the institutions that constitute the second tier of higher education. These similarities and differences make the Israeli and American cases useful for unpacking the ways in which institutional structures affect the stratification of opportunities to participate in higher education.

DIVERSIFICATION AND STRATIFICATION IN HIGHER EDUCATION

Proponents of institutional diversification have viewed the variability of institutions of higher education in functional terms, as a response to the heterogeneity of the educational needs and objectives of the student population (Dey and Hurtado 1999; Guri-Rosenblit 1999) or variation in the requirements of business (Card and Lemieux 2000; Murphy and Welch 1993). They have argued that traditional institutions of higher education, such as research universities and liberal arts colleges, are unable to meet the demands and interests of an increasingly heterogeneous population of students or adequately address the needs of a rapidly changing economy. They have contended that diversified systems are a welcome outcome of the transformation of higher education to a mass institution.

Critics of institutional diversification have viewed these processes in conflict terms. They have argued that in a differentiated system of higher education, the lower status of "second-tier" institutions provides inferior opportunities to disadvantaged groups. Although second-tier institutions may induce some disadvantaged students who would otherwise not have enrolled at all to participate in higher education, they also pull less advantaged students toward options of lower status than they would otherwise have selected. Consequently, the diversification of higher education, while reducing inequalities in college and university attendance, creates an additional status hierarchy within higher education (Ambler and Neathery 1999; Karen 2002). This hierarchy, which is based on the differential prestige of the various institutions, helps to preserve existing inequalities (Dougherty 1997; Hearn 1991; Hutchings 2003; Karabel 1972).

Even critics have acknowledged that diversified systems at least modestly reduce inequality in access to higher education: Less selective and nonacademically oriented institutions open the gates of higher education to disadvantaged populations. However, empirical research has suggested that members of privileged groups take better advantage of expanded educational opportunities, even those that are aimed at disadvantaged populations. A good example is the research on second-chance education, which has shown that less able students who belong to privileged social groups make the best use of institutions that originally aimed at improving the educational opportunities of underprivileged populations (Kerckhoff and Everett 1986; Raffe 1979; Saha 1985).

We do not challenge the claim that diversified systems of higher education have the potential to increase educational equality. Instead, we propose that whether they do so or not depends on the structure of diversification and the nature of diversified institutions. By focusing on two national cases of diversification, we are able to identify the key factors that shape the relationship between diversification and inequality and to test the notion that the connection is context dependent. Before we lay out the parameters of our two-case comparison, we explain in general terms the aspects of diversification that require closer scrutiny.

CROSS-NATIONAL DIFFERENCES IN SECOND-TIER INSTITUTIONS

Baccalaureate-granting universities and colleges generally occupy the top tier of institutions in all differentiated systems of higher education. The nature of the second tier varies across contexts, however. In some nations, second-tier institutions are identical in kind to first-tier institutions but lower in quality. They offer academic programs and bachelor's degrees but are less prestigious and less selective than are more established colleges and universities. In other nations, however, second-tier institutions are different in kind, offering vocational or semiprofessional training or limited academic instruction culminating in a subbaccalaureate credential (Meek et al. 1999; Shavit, Arum, and Gamoran 2007). Differences in the nature of second-tier institutions may have implications for inequality in higher education. Moderately selective and baccalaureate-granting second-tier institutions are likely to appeal both to the members of privileged groups, who for reasons of convenience or (weaker) academic skills prefer these schools over top-tier institutions, and to the members of disadvantaged groups, for whom first-tier institutions are unattainable because of the cost or demanding academic standards. As a result of their superior social and economic resources (Steelman and Powell 1991) and their better acquaintance with higher education (Bourdieu 1984; McDonough 1997), members of privileged groups are more likely than are members of disadvantaged groups to take advantage of the educational opportunities that are offered by second-tier baccalaureate institutions. The commonality of the credential that is offered at different types of institutions of higher education, combined with the substantial presence of advantaged students in second-tier institutions, dulls the social stigma of attending a second-tier institution in such contexts. Consequently, when second-tier and first-tier institutions are identical in kind but different in quality, we expect college or university attendance to remain the major source of stratification in higher education. Inequality in the types of institutions that students attend will be relatively small.

The story is different in countries where the second tier differs from the first tier in the kind of certification it offers. Nonacademic programs in higher education offer a less economically or socially desirable credential than do academic programs. Although the nonacademic credential produces returns in the labor market, it leads to a narrower, less prestigious range of occupations than does the academic credential and forecloses the possibility of graduate study, which is essential to membership in many professions. Nonacademic programs are typically nonselective, providing opportunities to all who complete secondary school or the equivalent. As a result of their more limited labor-market and status value, nonacademic institutions hold less appeal for privileged populations. Instead, they cater to disadvantaged students, who may view them either as a stepping stone to more competitive colleges and universities or as a means of gaining vocational training. In systems where the second tier differs from the first in kind, we expect less stratification in attendance per se because second-tier institutions are open to all. However, distinctions within the tertiary level assume greater importance because of both the lack of admissions standards in the second tier and the incomparability of the credentials that first- and second-tier institutions provide their graduates.

STRATIFICATION IN RELATIVE AND ABSOLUTE TERMS

In addition to evaluating the degree to which the United States and Israel conform to these regimes of stratification in higher education, we distinguish between two dimensions of stratification in college and university attendance. The current sociological approach to understanding stratification emphasizes a comparison of the relative distribution of some good or some outcome across individuals with different origin characteristics (e.g., Shavit et al. 2007; Shavit and Blossfeld 1993). Such an analysis helps demonstrate the extent to which outcomes are distributed along ascriptive or meritocratic lines within a given context and is usually expressed in

terms of the relative odds (e.g., the odds of college or university attendance for a working-class student relative to those of an upper-class student). The analysis of relative distributions is, by definition, insensitive to absolute levels of whatever good or outcome one is interested in studying.

The absolute level of college or university attendance, however, also merits consideration, particularly in a comparative context. Although differences in the absolute odds of college or university attendance do not speak to the stratification of opportunity within a country, the absolute odds speak to differences in the life chances and experiences of students in different nations. By comparing the absolute odds of attendance in different contexts, one learns about the opportunities that young adults of different social origins in different countries confront with regard to higher education, which gives one a sense of the between-nations component of inequality in college and university attendance. Just as increasing the supply of education does not guarantee a change in the relative distribution of educational attainment, a more equitable distribution of educational attainment does not necessarily suggest greater access to higher education. Educational attainment is shaped by the likelihood that students will attempt or complete a baccalaureate degree, not by the likelihood of completion that they will enjoy relative to their peers. At the level of individual outcomes, marginal students may be better served in a context in which inequality is high, but their chances of attending a college or university are great, than a context in which inequality is low, but their chances of attending college or university are remote.

HIGHER EDUCATION IN THE UNITED STATES AND ISRAEL

Our comparative analysis focuses on the United States and Israel, two nations that have fostered the growth of different types of second-tier institutions of higher education. The differences between the U.S. and Israeli higher education systems partly reflect the systems' different regulatory foundations.

State control over higher education in the United States has always been indirect and modest in magnitude, whereas control over higher education in Israel is and has always been centralized by the Council for Higher Education (CHE), a branch of the Ministry of Education. In the United States, the private sector predates the public sector in higher education. It took the first and second Morrill Acts in the 19th century to create a strong public system of higher education. Colleges and universities arose in the United States as anchors for the growth of communities, as a means of educating clergy, and as a way of fueling economic growth by giving workers productive skills (Brown 1995). Higher education has always been many things to many people in the United States, from purely academic to vocational. Institutions have their own varied agendas and seek to penetrate the student market as best they can.

In Israel, in contrast, the CHE has always regulated the expansion of higher education and the government's financial allocations to the universities and public colleges. Private provision of higher education is relatively recent and, like the public sector, is regulated by the CHE. Through the CHE, the state exerts an enormous degree of control over higher education. As a result, the field of higher education in Israel is much more homogeneous than is the field in the United States.

In both the United States and Israel, the expansion of higher education has been achieved mainly through the establishment of new institutions. These new institutions differ radically in character across national contexts. In the United States, expansion of enrollment has been largely accommodated by the proliferation of community colleges.[2] These institutions are open to anyone with a high school diploma (or equivalent); offer both nonacademic and academic programs; and typically include nondegree academic instruction, course credits toward the associate's degree, and credits toward a transfer to a baccalaureate-granting college or university.[3]

Scholars continue to debate the causes of the genesis and evolution of community colleges (Brint and Karabel 1989; Dougherty 1994). Many different institutional actors

were involved in the spread of community colleges, and for different reasons. Local agents, particularly high school and school district administrators, favored the development of community colleges to enhance their own prestige, as well as to provide greater access to educational opportunities following high school. Business leaders, in contrast, saw community colleges as a source of subsidized training for technical and middle management personnel. Finally, universities frequently gave political support to community colleges, hoping to send their less-qualified students to these new institutions and thus maintain or enhance their own academic reputations. The result of all these complementary forces has been a thriving, multipurpose sector in U.S. higher education. Still, through the transfer function they were originally intended to facilitate, community colleges clearly constitute a component of U.S. higher education. Indeed, one-fifth of all students who earned their first baccalaureate degree at the end of the 1999–2000 academic year started their postsecondary careers at community colleges (Bradburn et al. 2003:13).

In Israel, expansion has been achieved mostly through the development of the various types of baccalaureate-granting colleges, called the *michlalot* (singular: *michlala*).[4] The new *michlalot*, although less selective than the universities, still maintain some degree of selectivity and are not open to all high school graduates. The *michlalot* differ from one another in origin, curriculum, and admission policy,[5] which varies according to the type of *michlala* and field of study. However, all *michlalot* require successful performance on the high school matriculation examination (*bagrut*), and many require passage of the "psychometric" test, an aptitude test that is required by all universities.

Unlike the community colleges, *michlalot* offer only academic programs leading to a baccalaureate degree. The expansion of the *michlalot* was driven almost entirely by student demand and was strictly managed by the CHE. The Israeli research universities remain highly selective, particularly for more prestigious and popular fields of study, such as computer science, medicine, law, and business. The increase in the proportion of high

school graduates who are unable to meet the demands of the universities but are unwilling to forgo higher education created pressure on the Israeli system. In response to pressure from the public and research universities, the CHE chose to build a number of *michlalot* to accommodate this increase in demand. The result was the establishment of new institutions that follow, in many respects, in the steps of their predecessors.[6]

Vertical differentiation along status dimensions is evident in both countries. We distinguish among three levels of institutional prestige: elite universities, nonelite universities, and second-tier institutions (community colleges in the United States and *michlalot* in Israel). Despite variability in prestige within each category, there are clear divisions among them. Still, the hierarchy is more pronounced in the United States than in Israel. Following its expansion, higher education in the United States has turned into an increasingly competitive marketplace. Competition among elite schools for the most able students increased markedly during the 1970s and 1980s, leading to radical changes in the way the business of higher education at many schools is conducted (Duffy and Goldberg 1998; Fetter 1995). Although much of the research literature in this area has focused on elite institutions, many of which are private, there is reason to suspect that the competition for students extends to public flagship schools, such as the University of Wisconsin–Madison and the University of California–Berkeley as well.

The lower end of the prestige continuum in U.S. higher education is occupied by community colleges. Originally, community colleges were supposed to provide a gateway to students for transferring to institutions that offered bachelor's degrees. However, while they continue to serve as the initial institution of higher education for a large minority of those who attain baccalaureate degrees, they now constitute a terminal stage of education for most enrollees (Anderson, Alfonso, and Sun 2006; Brint and Karabel 1989; Dougherty 1994). Of the students who began taking courses at community colleges in 1992 with the goal of attaining baccalaureate degrees, only 27 percent had achieved this goal by 2000 (Hoachlander, Sikora, and Horn 2003).

Since all Israeli universities are public, the distinction among the traditional universities is different than in the United States. Under the CHE, the growth of the traditional universities during the 1980s led to a distinction between the three elite institutions (Hebrew University, the Technion, and Tel Aviv University), striving for general academic excellence and thus supporting an elite body of students, and the three nonelite universities (Bar-Ilan, Haifa, and Ben-Gurion), originally established as universities for specific or geographically peripheral populations. The planned expansion of the nonelite universities between the late 1980s and the mid-1990s created institutions that concentrate on the liberal arts and on undergraduate studies and are disproportionately attended by older students, women, and ethnic minorities (Yogev 2000).

As in the United States, the new Israeli institutions are considered less prestigious than are the old ones. The centrality of field of study in Israeli higher education may blur the hierarchy between the universities and the *michlalot*. Studying a prestigious field (e.g., law or computer sciences) in a *michlala* may be considered more prestigious than studying a less prestigious and less popular field (e.g., social science or education) in a university. Still, within each field of study, the *michlalot* are less prestigious, less attractive, and less selective than are the universities (Ayalon and Yogev 2006). The distinction between the universities and the *michlalot* is a major component of the policy of the CHE and of the professional and public discourse on higher education in Israel (e.g., Volanky 2005).

The prestige hierarchy of institutions of higher education has implications for labor market returns to the completion of degrees. In the United States, graduates of more selective baccalaureate institutions enjoy an earnings advantage over otherwise comparable graduates of less selective baccalaureate institutions (Black and Smith 2005; Brewer, Eide, and Ehrenberg 1999; Monks 2000). Those who attain associate's degrees, on the other hand, enjoy a modest earnings advantage over those with no college or university experience but less of an earnings advantage than those with baccalaureate degrees (Gill and Leigh 2000).

In the case of Israel, the more ambiguous ordering of institutions results in less-clear-cut implications for labor market returns to degrees. Research has suggested that, on average, the earnings of graduates of the private *michlalot*, which offer lucrative fields, are similar to those of university graduates who study both lucrative and nonlucrative fields (Shwed and Shavit 2006).

HYPOTHESES

The contrasting contexts of Israel and the United States lead us to make two hypotheses regarding stratification in higher education. First, we propose that socioeconomic inequality in the odds of obtaining any higher education is greater in Israel than in the United States, but that inequality is mediated by academic achievement to a greater degree in Israel. This hypothesis follows from the relatively high degree of selectivity in access to higher education in Israel, on the basis of academic merit or cost, compared to the United States, which has low-cost, nonselective institutions. We refer to this hypothesis as the *attendance-likelihood hypothesis*.

Second, we hypothesize that socioeconomic inequality in the types of institutions of higher education that students attend if they progress to the collegiate level is stronger in the United States than in Israel. This hypothesis follows from the clear-cut differences between the first- and second-tier institutions in the United States compared to the partly ambiguous differences in Israel regarding prestige and labor market outcomes. We refer to this hypothesis as the *destination hypothesis*.

DATA AND PROCEDURES

U.S. Sample

Data for the United States came from the National Educational Longitudinal Study of 1988 (NELS), a nationally representative sample that began with a base-year survey of eighth-grade students (aged 14) in 1988,

with follow-ups in 1990, 1992, 1994, and 2000. Almost 25,000 students participated in the base-year survey, and a random subsample of about 14,000 students was selected for the follow-up surveys. Information for higher education destinations came from the third follow-up in 1994, when most students were about 20 years old. Students were coded as attending an institution of higher education if they attended any sort of college or university (excluding proprietary vocational institutions) between the date of their expected high school graduation and the third follow-up. In these analyses, we did not distinguish between part-time and full-time attendance.

We operationalized the type of institution in the U.S. study as a categorical measure with four distinct values: community college, four-year elite college or university, regular four-year college or university, and missing (only 6 percent of the cases fell into the "missing" category). We considered any institution that offers a nonbaccalaureate degree requiring two or fewer years of full-time study a community college. Building on the work of Owings, Madigan, and Daniel (1998), we distinguished elite from nonelite institutions on the basis of the 1995 *U.S. News and World Report* guide to baccalaureate-granting institutions. We considered elite colleges and universities to be Tier 1 national universities ($n = 50$) and Tier 1 liberal arts colleges ($n = 40$).[7] Finally, we retained students who attended some sort of college or university, but for whom data about that institution were unavailable, as missing. Many of these students (90%) attended schools in the United States that are not tracked by the U.S. Department of Education in its postsecondary databases.

There are no universally accepted criteria for designating which colleges and universities are elite and which are not. Although there is widespread agreement regarding the status of some institutions, such as members of the Ivy League, the status of other institutions is more ambiguous. In alternative analyses not presented here, we experimented with school rankings on the basis of the average SAT scores of students who matriculated at each college or university. According to the cumulative distribution of SAT scores across institutions of higher education, we designated institutions in the top 5 percent or top 10 percent of the distribution as elite. The results reported here were, for the most part, robust to alternative definitions of elite standing. Where results differed in a substantively meaningful way across the analyses, those contrasts are noted in the text.

Most students in our sample who attended any college or university attended only one such institution (83 percent), so coding the type of institution they attended was straightforward. For the 17 percent of students who attended more than one institution following their graduation or departure from high school, however, it was necessary to decide which institution to consider as their outcome for these analyses. We had reports of up to three different postsecondary institutions attended by each student. To assign students in our classification scheme, we ranked colleges and universities in the following order, from the least to the most desirable: missing, community college, four-year regular, and four-year elite. So, for example, if a student attended a missing institution and a four-year nonelite college or university, he or she was assigned the four-year nonelite college for our multinomial equations. If a student attended a four-year elite college or university and a community college, she or he was assigned as having attended a four-year elite college or university for these analyses. Note that we were not concerned with which institution the student attended last or which institution the student spent the most time at, only which institution was, in a loose sense, most desirable. This procedure, we believe, tends to bias estimates of ascription downward, but only slightly.[8]

Ascriptive Measures   Ascriptive variables specific to the students themselves were race and sex. We classified race as Asian/Pacific Islander, Hispanic, non-Hispanic white, non-Hispanic black, and Native American.

Other ascriptive variables in our models refer to the attributes of students' parents or guardians. For each parent, education was classified as less than high school, high school or GED (general equivalency diploma), some college (no degree or a two-year college

degree), baccalaureate degree, or postbac-calaureate degree (including a master's, Ph.D., MD, and JD). We had self-reported education for 9,692 mothers or female guardians and 2,168 fathers or male guardians. Information for an additional 2,168 mothers and 9,692 fathers came from the spouses' reports. Finally, students' reports of parents' education were used for 2,137 fathers and 1,184 mothers for whom neither self- nor spouse-reported education was available. Despite these multiple source of information, we lacked data on parental education for 309 mothers and 851 fathers.[9]

We estimated mother's and father's occupations following the same procedure as for education. That is, we used self-reported occupation, if available; then the spouse's report; and then the student's report as the last resort. Occupation in the NELS data is coded categorically using 18 categories (including "don't know" and "never worked"). These categories are then translated to 12 socioeconomic index (SEI) scores with a mean of 41 and a standard deviation of 23. We treated these SEI scores as linear in our sample even though they are aggregated to the major occupation group. We were able to get valid SEI scores for 11,499 mothers and 11,769 fathers of NELS students.

Finally, we included from school reports the urbanicity of the school that the student attended. We used the 8th-grade school if available, then the 10th-grade school, and finally the 12th-grade school as the last resort. Schools were classified as urban, suburban, or rural. We had valid data on urbanicity for 13,040 students.

Achievement Measures   We used three different measures of academic achievement. NELS students took a series of standardized tests in mathematics, reading, history, and science in both the 8th and the 12th grades. For each grade, we took the average of all available test scores as a proxy for academic ability, on the basis of the IRT-estimated number of correct answers for each test. Base-year test data were available for 12,638 students, and senior-year test data were available for 10,139 students.

NELS also collected information from transcripts for a subsample of students; for students for whom this information was available, we used the grade point average (GPA) estimated by NCES. We had valid GPA data for 8,083 students. Finally, we had a self-reported measure of high school track taken from students during the first follow-up, when they were sophomores. Students reported that they were in the academic track, the general track, the vocational track, or some other track.

Israeli Samples

The Israeli analyses were based on two sources of data. The data for the attendance-likelihood hypothesis came from a follow-up survey conducted by the Israeli Central Bureau of Statistics (ICBS) of all students who were in the 12th grade in 1991. These data included gender, ethnicity, father's education, high school track, and the type of college or university attended (if any) for 64,168 students through 1998.

We would have preferred to use the ICBS data for both the attendance-likelihood and the destination hypotheses. Unfortunately, the ICBS data lack the level of detail on students' secondary school achievement and higher education destinations that was necessary to test the two hypotheses that motivated this project. We tested the destination hypothesis using data from a higher education survey conducted in 1999 by the Israeli authors (Ayalon and Yogev) for the Israeli Ministry of Education on the basis of a stratified, purposive national sample of freshmen in the *michlalot* and universities.[10] The sample of *michlalot* was drawn from the universe of *michlalot* that offer at least one of the following six fields of study, which are the major fields offered by the *michlalot*: education and teaching, technology, business and economics, arts and architecture, law, communication, and social sciences. *Michlalot* were selected according to their type and geographic location. All six universities were included in this study. For the sake of comparability, the sample of university students included only students who studied one of the six major fields of study offered by the *michlalot*. Other major fields of study, mainly the humanities, exact sciences, and medicine, are not represented in the sample.[11] A list of compulsory first-year classes for

each of the six fields of study was obtained from each of the sampled *michlalot* and from all six universities. Compulsory classes were selected according to the convenience of the institution and the research team. All students in each of the selected classes were asked to complete a self-administered survey, and most students complied with this request. Advanced students who were enrolled in the class were excluded from the survey. The achieved sample was representative of institutions and first-time students in Israel in 1999. The final sample included approximately 4,100 students, of whom two-thirds were enrolled in *michlalot* and one-third were enrolled in universities, (See Appendix A for a comparison of the sample with the population of all first-year students in Israeli colleges and universities.)

Students in non-degree-granting postsecondary vocational institutions were not included in either sample, since these institutions are not considered part of the higher education system in Israel. Moreover, unlike community colleges in the United States, these institutions offer no pathway to academic higher education.

Type of Institution   We distinguished among students who attended elite universities (Hebrew University, Tel Aviv University, and the Technion), nonelite universities (Bar-Ilan, Haifa, and Ben-Gurion), and *michlalot*. These distinctions are widely recognized (e.g., Yogev 2000). By collapsing all *michlalot* into a single category, we ignored the internal differentiation of the *michlalot* (see note 5).

Ascriptive Measures   The characteristics specific to individual students were age, gender, and ethnic origin. Ethnic origin was classified as Mizrachi (Jews of Middle Eastern or North African origin, the Jewish disadvantaged ethnic group), Ashkenazi (Jews of European or American origin and third-generation Israeli Jews), and Arab. Age was also included as a predictor.[12] The age range for the middle 90 percent of the sample was 19–30.

Similar to the U.S. data, other ascriptive variables refer to the characteristics of parents reported by the students. For each parent, education was classified as less than high school, high school, post-high school, bac-

calaureate degree, and postbaccalaureate degree. Parents' occupation was coded according to the Kraus and Hartman (1994) scale for occupational prestige in Israel. Both mother's and father's occupation had high rates of missing data: 10 percent for father's occupation and 23 percent for mother's occupation. The missing data for mother's occupation included housewives. For these two variables, we substituted the missing values by the mean and added a dummy variable coded 1 for missing cases in the original variables.

Finally, the students also reported their area of residence, which was classified as periphery (southern or northern regions) or center (all other geographic regions). In Israel, the periphery is usually disadvantaged in terms of resources in general and educational opportunities in particular.

Achievement Measures   To measure secondary school achievement, we used the scores of students on the two tests that are used as selection criteria by all universities and most *michlalot*: the matriculation diploma (*bagrut*) and the psychometric test. The matriculation examinations are standardized examinations, geared toward high school curricula in specific subjects, that students take at the end of high school. The *bagrut* score was missing for 7 percent of the sample. The psychometric test is an aptitude test that is required by all universities and most *michlalot*. The psychometric score was missing for 16 percent of the sample. For these two variables, we substituted the mean for missing values and added a dummy variable coded 1 for missing cases in the original variables. We also included high school track, classified as academic or vocational. Descriptive statistics for the dependent and independent variables for the two samples are presented in Appendix B.

METHODS

To explore the attendance-likelihood hypothesis, we compare odds and odds ratios of enrolling in higher education in the United States and in Israel. By comparing the

absolute odds of attendance in the two contexts, we can get a sense of what sort of life chances young adults of different social origins in Israel and the United States face with regard to higher education. The absolute odds give us an estimate of the *between*-nations component of inequality in attendance outcomes. As we already noted, however, absolute odds tell only part of the story. To understand the extent to which the likelihood of participating in higher education *within* each context is stratified on the basis of the circumstances of birth, we must turn to the context-specific relative odds of college or university attendance.

To estimate the characteristics of social stratification in Israeli and U.S. higher education, we pursue two analytic strategies. First, we estimate logistic regression models of the probability of attending any institution of higher education (the attendance-likelihood hypothesis) and of the probability of attending an elite institution, a regular four-year institution, or a community college/*michlala* (the destination hypothesis).[13] We estimate two such models for each outcome. In the first model, we include only ascriptive characteristics and measures of social origin. These models give us a baseline estimate of the extent to which college or university transitions reflect broader patterns of social inequality. In the second logistic model for each outcome, we include measures of secondary school achievement to asses the extent to which students' experiences prior to high school graduation mediate the baseline patterns of inequality we observe in the reduced models. Our interest is not in the strength of the relationship between prior academic achievement and destinations, but in the extent to which prior achievement mediates gross inequalities. The extent to which stratification is mediated by intervening educational outcomes does not alter the degree to which educational destinations are stratified according to origin attributes, but it helps us understand some of the mechanisms by which inequality in social origin is translated into inequality in educational attainment. The magnitude of any mediating role of secondary school achievement also reflects the degree to which tensions between merito-

cratic rules of access and openness are resolved through the secondary school system.

Although comparing parameter estimates across national contexts is informative, this approach is limited in certain respects. First, in the odds metric, effects of independent variables are multiplicative. Thus, correlations among independent variables can have powerful mediating or exacerbating effects on inequalities in participation in higher education. If the correlation among origin factors is greater in one nation than in another, this aspect of compounded disadvantage will be overlooked in a comparison of model parameters.

Second, even if correlations among origin variables are relatively similar across contexts, the distributions of these predictors may vary in important ways. Differences in the distributions of the independent variables would produce differences in the distributions of predicted probabilities. Thus, while relative inequalities within the two contexts could suggest one set of conclusions, inequalities in the distribution of higher education destinations, as reflected by predicted probabilities, could suggest a different set of conclusions.

Finally, the identification of logistic regression parameters is based on an assumption that the variance of the unobserved disturbance (σ^2) is $\pi^2/3$. Although this identifying restriction is harmless in the context of nested models, the restriction can be problematic in comparative research because the dispersion of the error term is not uniquely identified and thus is folded into the estimates of the structural parameters. What we commonly report as β is actually β/σ (Long 1997; Louviere 2001). We have no way of knowing whether differences between parameter estimates across contexts are due to structural differences (β) or to differences in model dispersion (σ). Probability estimates, however, are unaffected by assumptions regarding the dispersion of the error term and are thus more directly comparable than are parameter estimates.

After we discuss differences in model parameters across the two national contexts, we present a series of analyses of the probabilities for different higher education outcomes pre-

dicted under the models of gross stratification. To express the difference in stratification between the United States and Israel, we apply the logic of Lorenz curves to a comparison of predicted probabilities. This logic allows us to estimate, both quantitatively and graphically, the differences in the stratification of higher education destinations.

Assume that each context offers some finite number of positions in each type of educational institution. Perfect social equality would obtain if the probabilities of a student attending each type of institution were insensitive to the students' social origins. If this were the case, the cumulative distribution of predicted probabilities would be a linear function, moving from 0 percent to 100 percent of the available slots in a particular type of institution.

Now assume instead that social origins have some bearing on higher education destinations. Under this scenario, predicted probabilities are not uniform with respect to social origins; more advantaged students may have higher probabilities of participating in higher education and, conditional on attendance, higher probabilities of attending elite institutions and lower probabilities of attending nonelite institutions than may their less advantaged peers. Graphically, this pattern would emerge as a curvilinear deviation from the linear function of equality. By sorting students in ascending order on the basis of their predicted probability of attendance and graphing the cumulative probability function, we can judge the degree of inequality in the system by the extent to which the predicted probabilities deviate from the line of equality.

In comparing the Israeli and American distributions of predicted probabilities, we may be able to make a more direct comparison between the two systems of stratification. We may be able to find instances in which one context produces a Lorenz curve closer to equality (linearity) than the other. In this case, we could conclude that the context that produced the Lorenz curve with the greater curvature is more stratified than the other context. The area between the curve and the line of equality is equal to half the value of the Gini coefficient (G). Thus, comparing the predicted probabilities for these two models of

ascription should provide both qualitative and quantitative evidence of stratification in higher education (for a detailed discussion of these and other related measures of inequality, see Allison 1978).

FINDINGS

The Attendance-Likelihood Hypothesis

The attendance-likelihood hypothesis predicts that inequality in the likelihood of attaining any higher education is larger in Israel than in the United States. We first test the between-nation aspect of this hypothesis by comparing the gross odds of college or university enrollment based on father's education, ethnicity, sex, and high school track in the two countries. To reach maximum comparability between the two countries, we dichotomized father's education to less than postsecondary and some postsecondary education. The gross odds (see Table 1) reflect the share of students with each attribute who participated in higher education divided by the share who did not. A value greater than 1.00 means that the probability of enrolling surpasses the probability of not enrolling; a value smaller then 1.00 means the opposite. A value close to 1.00 means that the two probabilities are about 50 percent. For example, the figure for female in the U.S. sample (2.182) indicates that women are about twice as likely to enroll in a college or university as they are not to enroll, corresponding to a probability of enrollment of 0.68.

The results shown in Table 1 suggest that the likelihood of enrollment is higher in the United States than in Israel for individuals of comparable social origins. For example, the odds of enrollment for an American whose father did not attain any postsecondary education are almost equal to the odds of not enrolling (the odds are 1.02). The odds of enrollment for an Israeli of a similar background are much lower (0.63). The parallel odds of attending a college or university for Americans and Israelis whose fathers have a postsecondary education are 3.5 and 2.1, respectively. For every comparison we were

Table 1. Gross Odds of Attaining Any College

Characteristic	United States	Israel
Sex		
Female	2.182	0.902
Male	1.800	0.853
Parental Education		
No postsecondary	1.024	0.630
Parents' education missing	0.667	—
Postsecondary	3.488	2.081
Track		
General	1.302	—
Vocational	0.660	0.490
Other	0.798	—
Academic	7.701	1.273
Race/Ethnicity		
Asian/Pacific Islander	4.852	—
Hispanic	1.463	—
Black (non-Hispanic)	1.226	—
Native American	0.886	—
White (non-Hispanic)	2.215	—
Mizrahim	—	0.665
Arab	—	0.419
Other Jewish	—	1.320

able to make with these data, American students were more likely to attain some higher education than were comparable Israeli students.[14]

The most striking difference between the two countries in the odds of enrollment is in track inequality. In comparing track inequality in the two countries, one should keep structural differences in mind. U.S. secondary education includes academic, general, vocational, and other tracks, whereas the Israeli system includes solely academic and vocational tracks. The academic track in Israel parallels the academic track in the United States in preparing students for higher education. A parallel to the general track is missing from the Israeli system. Irrespective of the different tracking structures, the United States exhibits higher levels of participation in higher education in all tracks. The odds of enrolling in some higher education institution for an academic track student in the United States are much higher than are those of an academic track student in Israel (7.70 and 1.27, respectively). The odds of participation in higher education for a general track student in the United States are almost the same as the odds

of enrollment for an academic track student in Israel. Vocational track students in the United States are also more likely to enroll than are their Israeli counterparts.

Contrary to our hypothesis, the greater opportunities in the United States are not accompanied by lower levels of socioeconomic stratification. Table 2 presents odds ratios from logistic regressions predicting the chances of attaining some higher education. In the ascription model, women in both the United States and Israel are significantly more likely to attend a college or university than are otherwise-comparable men. The achievement models show that a substantial share of the gender difference in the U.S. context is mediated by high school achievement, but the advantage that women enjoy over men persists net of controls. In the Israeli case, the advantage actually reverses; among students from comparable track locations and matriculation-exam status, Israeli women are somewhat less likely than are Israeli men to enroll in a college or university.[15]

Turning to students' social background, the ascriptive models indicate that the difference in the relative odds of attendance for

Table 2. Logistic Regression of the Effect of Background Characteristics and Past Achievement on College Enrollment[a]

Characteristic	United States		Israel	
	Ascription	Achievement[b]	Ascription	Achievement[c]
Sex				
Female	1.29**	1.15**	1.08**	0.92**
	[1.15,1.45]	[1.00,1.31]	[1.04,1.13]	[0.88,0.96]
Parental Education[d]				
(no postsecondary omitted)				
Parent postsecondary	3.29**	2.13**	2.81**	1.76**
	[2.92,3.71]	[1.87,2.43]	[2.68,2.94]	[1.66,1.86]
Race/Ethnicity				
(white non-Hispanic/				
Ashkenazi omitted)				
Asian/Pacific Islander	2.03**	1.79**	—	—
	[1.54,2.67]	[1.32,2.43]		
Hispanic	.88	1.36**	—	—
	[0.74,1.05]	[1.12,1.66]		
Black	.64**	1.24	—	—
	[0.50,0.82]	[0.97,1.57]		
Native American	0.50***	.96	—	—
	[0.34,0.72]	[0.63,1.45]		
Mizrachi			0.66**	0.85**
			[0.63,0.69]	[.81,.89]
Arab	—	—	0.45**	0.47**
			[0.42,0.48]	[.44,.51]
Track				
(academic omitted)				
General	—	.33**		
		[0.28,0.38]		
Vocational	—	0.19**	—	0.79**
		[0.16,0.24]		[.75,.83]
Other	—	0.21**	—	—
		[0.17,0.26]		
Observations	13,748		43,308	

**p < .01, ***p < .001.
[a]Cells display odds ratios and 95 percent confidence intervals.
[b]U.S. achievement models include controls for GPA and for performance on standardized tests.
[c]Israeli achievement models include a control for whether or not a student took the matriculation examination.
[d]In the Israeli model, parental education is father's education only.

children of college or university attendees compared to those with a high school education or less is somewhat greater in the United States (3.29) than in Israel (2.81). In both contexts, high school achievement mediates a substantial portion of this differential, but both coefficients retain their statistical signifi-

cance.[16] Contrary to the attendance-likelihood hypothesis, we find that stratification based on parental education is greater in the United States than in Israel.

In both Israel and the United States, we find evidence of racial/ethnic inequalities in continuation rates. In the Israeli case, both

Mizrahi Jews and Arabs are less likely to participate in higher education than are Ashkenazi Jews (the omitted category). Distinctions in the U.S. context are less clearcut. While both African American and Native American students appear less likely than otherwise-similar non-Hispanic white students to enroll in a college or university in the ascription model, Asian American students appear more likely to do so than non-Hispanic white students. Hispanic students may be slightly less likely than non-Hispanic white students to continue, but the odds ratio of .88 indicates that the difference is modest at 12 percent (1.0 - .88 = .12) and does not attain statistical significance.

Once we add controls for secondary school achievement, we find that in the United States, Hispanic students are *more* likely than are similar non-Hispanic white students to attend a college or university, while the differences in the odds of attendance between African American and Native American students and their non-Hispanic white peers are not statistically significant. The Mizrachi-Ashkenazi difference is mediat-

ed by achievement in the Israeli context, but the Arab-Ashkenazi contrast is not.

Figure 1 plots the cumulative probability of attendance for both the Israeli and U.S. samples based on the ascription models just discussed. The diagonal line represents total equality of opportunity, and deviations from the diagonal reflect the degree to which the probability of attendance conditional on sex, parental (father's) education, and race/ethnicity is unequally distributed. Probabilities are standardized within each country. Although the probabilities of attendance are generally higher in the United States (as suggested by the odds shown in Table 2), differences in these absolute probabilities are suppressed in Figure 1.

The Gini coefficient for attendance probabilities in the United States (0.133) is smaller than in Israel (0.172), suggesting somewhat lower levels of inequality in access to higher education in the United States. However, as Figure 1 shows, the inequality curves for the two nations intersect. In the language of Lorenz curves, neither probability distribution is Lorenz inferior to the other, and hence we
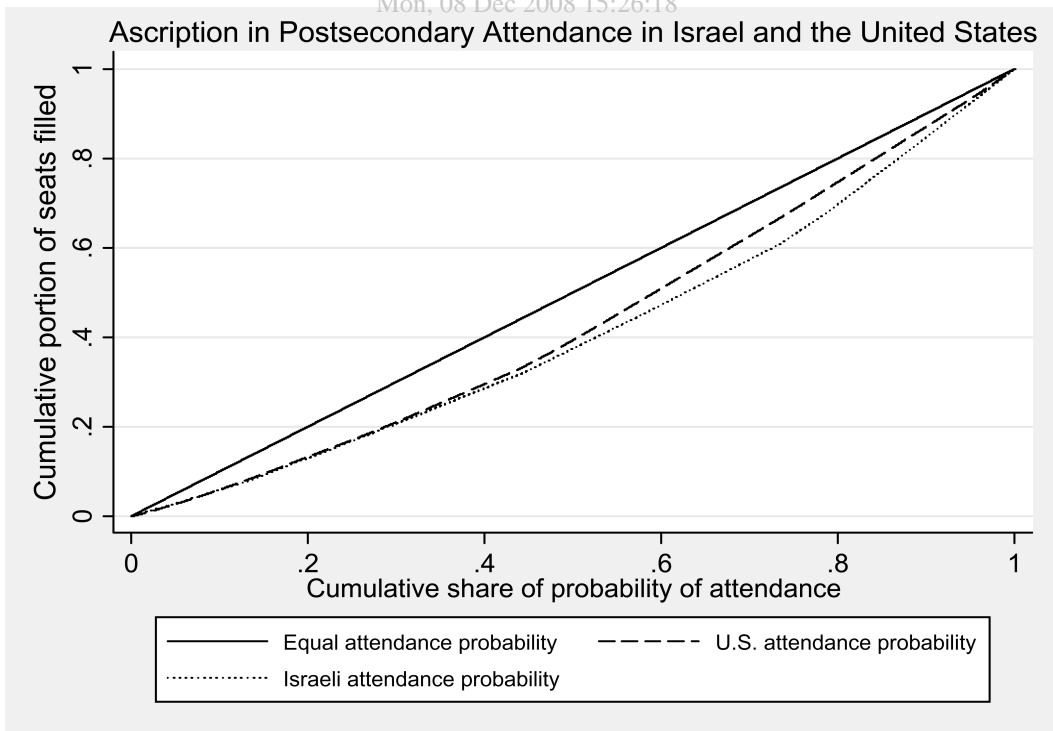
Figure 1. Ascription in the Probability of College Attendance

can reach no conclusion regarding the attendance-likelihood hypothesis based on the cumulative distributions of attendance probabilities.

Overall, these results offer weak evidence for the attendance-likelihood hypothesis. Compared to Israeli high school graduates, high school graduates of similar social origins in the United States enjoy a greater absolute likelihood of enrolling in higher education. However, higher overall attendance rates do not necessarily indicate a greater level of social equality. The results of the logistic regression models imply that in both countries, children of college- or university-educated parents enroll at higher rates than do children of parents who ended their educational careers at or before their high school graduation. These inequalities are not appreciably lower in the United States, contrary to our hypothesis.

Racial/ethnic inequalities in college or university attendance are evident in both the United States and in Israel, but in the U.S. case, these inequalities appear to be mediated by secondary school achievement. Although the gross odds indicated higher levels of participation in higher education for all tracks in the United States, the current analysis shows that inequality between tracks is also greater in the United States than in Israel. The coefficient of vocational track in the U.S. model (0.19) implies that enrollment in the vocational track decreases students' odds of college or university attendance by 81 percent (1.0 - .19 = .81) relative to students in the academic track. The parallel figure for Israel (coefficient of 0.79) is 21 percent (1.0 - .79 = .21). Track inequality in the United States, combined with the nonselectivity of the community colleges, suggest that the relatively low enrollment rates of non-academic-track students in higher education may stem, at least in part, from these students' own preferences, not only from constraints imposed by the system. External constraints probably play a more central part in Israel.

The Destination Hypothesis

The results of multinomial logistic regressions that were designed to test the destination hypothesis are presented in Tables 3 (for Israel) and 4 (for the United States). In each table, the ascription model is presented in the first and second columns, and the achievement model is presented in the third and fourth columns.

Israel   We find scant evidence of socioeconomic inequality in the ascription model for Israeli students. None of the parental attributes significantly predicts enrollment in an elite institution relative to a nonelite university. However, better educated parents decrease the likelihood of enrolling in *michlalot* compared to a nonelite university. For example, those whose fathers have bachelor's degrees are only 73 percent as likely to enroll in a *michlala* as are those whose fathers have less than a high school education. Students whose mothers have graduate degrees are about 66 percent as likely to enter a *michlala* as those whose mothers had less than a high school education. These are the only statistically significant parental education predictors, however.

The ethnicity effects in the ascription model are more robust than are the socioeconomic effects. The relative chances of Mizrachi students enrolling in elite universities instead of nonelite universities are lower than are those of otherwise similar Ashkenazi students. However, the odds of Mizrachi students enrolling in *michlalot* compared to nonelite universities are no different from those of Ashkenazi students. Alternatively, while Arab students experience no net disadvantage in their odds of enrolling in elite universities compared to Ashkenazi students, the odds of Arab students enrolling in a *michlala* compared to a nonelite university are about three times higher than the parallel odds of the Ashkenazi students.

The achievement model introduces high school track and scores on the *bagrut* and psychometric test. The hierarchy among the various institutions according to prior academic performance is clear. Higher *bagrut* scores increase the likelihood of enrolling in elite versus nonelite universities, but decrease the likelihood of enrolling in *michlalot* versus nonelite universities. Higher psychometric scores decrease the odds of enrollment in a

Table 3. Multinomial Logistic Regression of the Effect of Background Characteristics and Past Achievement on Type of College (nonelite universities omitted)—Israel (*N* = 4,107)[a]

Characteristic	Ascription		Achievement	
	Elite	*Michlalot*	Elite	*Michlalot*
Sex				
Female	1.48**	1.28**	1.45**	0.84
	[1.20,1.81]	[1.10,1.49]	[1.17,1.80]	[0.70,1.01]
Ethnicity				
(Non-Mizrachi Jews omitted)				
Mizrachi	0.69**	1.01	0.67**	0.94
	[0.53,0.90]	[0.84,1.21]	[0.51,0.87]	[0.76,1.17]
Arab	1.08	2.93**	0.90	1.89**
	[0.53,2.20]	[1.81,4.74]	[0.43,1.87]	[1.10,3.25]
Age	1.03	1.12**	1.05**	1.08**
	[0.98,1.07]	[1.08,1.15]	[1.01,1.09]	[1.04,1.11]
High School Location				
Periphery (center omitted)	0.62**	0.99	.64**	0.84
	[0.48,0.79]	[0.83,1.18]	[0.49,0.82]	[0.68,1.02]
Father's Education				
(less than high school omitted)				
High school	0.86	1.06	0.82	1.29
	[0.67,1.11]	[0.89,1.27]	[0.64,1.05]	[1.05,1.57]
Post-high school	0.70	0.98	0.65**	1.02
	[0.48,1.01]	[0.76,1.27]	[0.44,0.94]	[0.76,1.36]
BA	1.01	0.73**	0.91	0.92
	[0.68,1.50]	[0.54,0.99]	[0.61,1.37]	[0.66,1.29]
Post-BA	1.28	0.78	1.12	0.95
	[0.83,1.95]	[0.56,1.08]	[0.72,1.72]	[0.66,1.38]
Mother's Education				
(less than high school omitted)				
High school	1.03	0.84	1.02	0.91
	[0.70,1.52]	[0.64,1.10]	[0.69,1.51]	[0.67,1.23]
Post-high school	1.02	0.82	1.36	0.91
	[0.68,1.54]	[0.62,1.10]	[0.90,2.05]	[0.66,1.26]
BA	1.19	0.84	1.12	1.07
	[0.78,1.82]	[0.62,1.15]	[0.73,1.72]	[0.75,1.52]
Post-BA	1.01	0.66*	0.76	0.78
	[0.63,1.61]	[0.46,0.94]	[0.47,1.22]	[0.53,1.16]
Parents' Occupation				
Father's occupational prestige	1.00	1.00	1.00	1.00
	[0.99,1.01]	[0.99,1.00]	[1.00,1.01]	[1.00,1.01]
Father's occupational prestige missing	0.74	1.43**	0.75	1.00
	[0.48,1.14]	[1.08,1.88]	[0.48,1.16]	[1.00,1.01]
Mother's occupational prestige	1.00	1.00	1.00	1.00
	[0.99,1.01]	[0.99,1.00]	[0.99,1.00]	[0.99,1.00]
Mother occupational prestige missing	0.82	1.04	0.81	0.91
	[0.61,1.11]	[0.84,1.28]	[0.60,1.09]	[0.72,1.16]
Academic Achievement				
Vocational track	—	—	.81**	1.16**
			[0.60,1.09]	[0.90,1.50]
Bagrut			1.04**	0.94**
			[1.03,1.06]	[0.93,0.95]
Bagrut missing			1.32	0.62**
			[0.85,2.04]	[0.44,0.87]
Psychometric test			1.00	0.99**
			[1.00,1.00]	[0.97,1.00]
Psychometric test missing			0.75	2.78**
			[0.49,1.15]	[2.13,3.61]

**p < .01, ***p < .001.
[a]Cells display odds ratios and 95 percent confidence intervals.

Table 4. Multinomial Logistic Regression of the Effect of Background Characteristics and Past Achievement on Type of College (regular four-year colleges omitted)—United States (*N* = 9,277)ᵃ

Characteristic	Ascription		Achievement	
	Elite	Community College	Elite	Community College
Sex				
Female	0.9	0.80**	0.73*	0.98
	[0.72,1.12]	[0.70,0.92]	[0.58,0.93]	[0.84,1.14]
Race/Ethnicity				
(white non-Hispanic omitted)				
Asian/Pacific Islander	3.54**	1.26	3.60**	1.39
	[2.56,4.91]	[0.94,1.68]	[2.55,5.08]	[0.99,1.95]
Hispanic	1.13	1.2	2.04**	0.85
	[0.74,1.73]	[0.93,1.54]	[1.22,3.41]	[0.65,1.11]
Black	0.74	0.75	1.80**	0.37**
	[0.48,1.14]	[0.56,1.01]	[1.07,3.02]	[0.27,0.50]
Native American	1.06	2.02	3.4	0.85
	[0.22,5.27]	[0.94,4.34]	[0.53,21.75]	[0.37,1.96]
Father's Education				
(less than high school omitted)				
High school	1.16	0.83	1.39	0.87
	[0.62,2.17]	[0.63,1.10]	[0.65,2.97]	[0.65,1.18]
Some college	1.46	0.70*	1.65	0.77
	[0.83,2.59]	[0.53,0.93]	[0.79,3.47]	[0.58,1.02]
BA	1.93*	0.50**	2.00	0.57**
	[1.05,3.54]	[0.36,0.70]	[0.93,4.31]	[0.40,0.82]
Graduate training	3.80**	0.51**	3.37**	0.67
	[1.98,7.27]	[0.33,0.77]	[1.52,7.46]	[0.45,1.02]
Mother's Education				
(less than high school omitted)				
High school	0.79	0.83	0.78	1.02
	[0.46,1.37]	[0.64,1.09]	[0.40,1.50]	[0.76,1.37]
Some college	0.9	0.78	0.67	1.04
	[0.51,1.59]	[0.60,1.02]	[0.33,1.36]	[0.78,1.40]
BA	1.3	0.42**	0.83	0.65*
	[0.70,2.43]	[0.29,0.60]	[0.39,1.80]	[0.45,0.95]
Graduate training	2.04*	0.47**	1.31	0.69
	[1.01,4.11]	[0.30,0.75]	[0.55,3.11]	[0.44,1.10]
High School Location				
(suburban omitted)				
Urban	1.08	0.84	1.18	0.86
	[0.81,1.44]	[0.67,1.05]	[0.87,1.60]	[0.68,1.09]
Rural	0.46**	0.79*	0.38**	0.85
	[0.29,0.71]	[0.64,0.97]	[0.24,0.62]	[0.68,1.06]
Parents' Occupation				
Mother's SEI	1.00	0.99**	1.00	0.99**
	[0.99,1.01]	[0.99,1.00]	[0.99,1.01]	[0.99,1.00]
Father's SEI	1.01	0.99**	1.01	0.99**
	[1.00,1.01]	[0.99,1.00]	[1.00,1.01]	[0.99,1.00]
Academic Achievement				
8th-grade test composite			1.13**	0.96**
			[1.09,1.17]	[0.94,0.97]
12th-grade test composite			1.03	0.96**
			[0.99,1.07]	[0.94,0.97]
General			0.60*	2.02**
			[0.38,0.92]	[1.70,2.41]
Vocational			0.75	3.15**
			[0.25,2.20]	[2.42,4.10]
Other			0.52	2.79**
			[0.21,1.28]	[1.96,3.97]
GPA			2.88**	0.45**
			[1.89,4.38]	[0.39,0.53]

*p < .05, **p < .01, ***p < .001.
ᵃCells display odds ratios and 95 percent confidence intervals.

michlala versus a nonelite university. Participation in the vocational track reduces the odds of enrollment in an elite versus a nonelite university, but increases the odds of enrollment in a *michlala* versus a nonelite university. In the achievement model, the few significant socioeconomic coefficients from the ascription model no longer appear consequential: Neither mother's nor father's education matters in the comparison of enrollment in *michlalot* versus nonelite universities.[17] Overall, the findings indicate little role for socioeconomic effects, particularly net of achievement, and a significant role of academic background in the stratification of higher education.

Controlling for prior achievement has less impact on the ethnicity coefficients. The controls reduce the effect of Arab origin in the analysis of *michlala* enrollment. The odds ratio is smaller, but remains substantial in magnitude and is statistically significant. The control has no meaningful influence on the effect of Mizrachi origin in the analysis of elite universities. Thus, the ethnic factor operates differently from the socioeconomic factor in the Israeli case.[18]

United States   The results for the United States also indicate social inequality in enrollment in different types of institutions of higher education, but the inequality is more prominent than in Israel and the mediating role of high school academic performance is weaker. The first two columns of Table 4 present the results for the ascription model. Students whose mothers and fathers have undergraduate or graduate degrees and whose parents have higher-status occupations are significantly less likely to enroll in two-year colleges than in regular four-year colleges and universities. Similarly, having a mother with a graduate degree or a father with an undergraduate or graduate degree substantially increases the odds of enrolling in an elite institution rather than in a regular institution. Parents' occupations, however, are not significantly related to the distinction between regular and elite four-year institutions net of other ascriptive attributes.[19]

The magnitude of inequality in the ascription model is considerable. For example, the

odds ratio of 0.50 for fathers having a bachelor's degree implies that the odds of such students attending a community college as opposed to a regular four-year institution are only half as great as the odds for students whose fathers were high school dropouts. Similarly, the odds ratio of 1.93 for the same variable in the analysis of elite institutions implies that the odds of attending an elite institution as opposed to a regular institution for students whose fathers attained a bachelor's degree are nearly twice as great as the odds for students whose fathers did not complete high school.

The last two columns of the table show that academic achievement does less to reduce these associations in the American case than in the Israeli case. The achievement models control for track location, test scores in Grades 8 and 12, and high school GPA, each of which contributes significantly to enrollment outcomes. Net of prior achievement, inequality based on social origins is reduced but not eliminated. In the model for two-year enrollment, the odds ratios for mother's and father's bachelor's degrees are reduced by about half and remain statistically significant; the net effect of having a parent with graduate training is reduced by less than the effect of having a parent with a bachelor's degree but is no longer statistically significant. In the model of enrollment in an elite institution, the odds ratio for mother's graduate degree also drops by about a third, but the ratios for father's undergraduate and graduate degrees are hardly changed by the inclusion of controls for achievement. Moreover, social background differences in enrollment probabilities are still large enough to be substantively meaningful, even after prior academic performance is taken into account. For example, the odds ratio of .57 for fathers with a bachelor's degree on two-year college enrollment implies that compared to those whose fathers dropped out of high school, the odds of enrolling in a two-year versus a four-year institution for students whose fathers completed a bachelor's degree are about 43 percent lower. Conversely, the odds ratio of 2.00 for the impact of fathers with a bachelor's degree on attendance at an elite institution indicates that the relative

odds of attending an elite versus a regular institution are about twice as high for students whose fathers completed a college or university education as for students whose fathers dropped out of high school, even after prior academic achievement is controlled.

The U.S. results show no evidence of ethnic inequalities in type of higher education enrollment, net of other social background conditions. After achievement variables were controlled for in Model 2, the relative odds of enrollment in an elite versus a regular institution are greater for African Americans, Hispanics, and Asian Americans than for whites. The odds ratio for Native Americans is also positive but nonsignificant, probably owing to the small number of Native Americans in the sample. African Americans exhibit significantly lower relative odds of enrolling in a community college versus a regular institution than do whites. Thus, in contrast to Israel, socioeconomic inequalities are much more salient than are ethnic inequalities in the case of the United States.

Comparing Stratification in Probabilities of Attendance Figures 2–4 plot the cumulative predicted probabilities of attendance for Israeli and American students for each sector of interest. These figures are based on the model of ascription from each context. Figure 2, the predicted probabilities of attending a community college or a *michlala*, shows that there is a modest difference in inequality between the United States and Israel. The Gini index value for attending a community college in the United States is 0.22, implying that the area between perfect equality and the distribution of predicted probabilities for the U.S. is 0.11. The Gini coefficient for the probably of attending a *michlala* is 0.14, so the area between equality and the distribution of predicted probabilities for the Israeli context is 0.07. The probability of attendance is therefore slightly more equal in Israel than in the United States, but differences are modest, particularly considering the different clienteles to which the two types of institutions cater. Since the curves overlap, neither
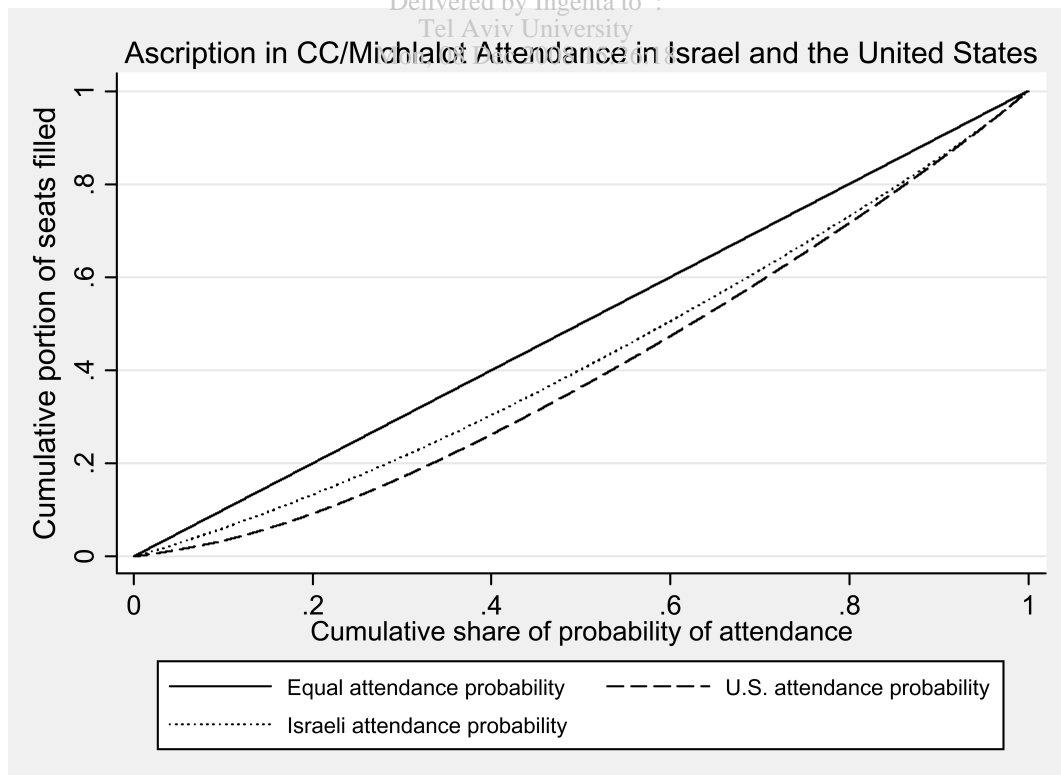
**Figure 2. Ascription in the Community College and *Michlalot***

context is clearly more or less stratified than the other.

Differences in the probability of attending a regular four-year institution are nonexistent (see Figure 3). The cumulative predicted probabilities for American and Israeli students overlap to such a degree that they are almost indistinguishable from one another graphically. The Gini coefficients for the predicted probabilities for Israel and the United States, at 0.144 and 0.133, respectively, reinforce the point.

Turning to the predicted probabilities of attending elite institutions, we find substantial differences between the two national contexts (see Figure 4). Stratification in the predicted probabilities of attending an elite institution in the United States is pronounced, both in absolute terms and relative to stratification in Israel. At no point do the two cumulative predicted probability curves intersect, indicating that stratification in the United States is, by any of several potential measures of inequality, more severe than is stratification in Israel. The Gini coefficients for the predicted probabilities of attending an elite institution are 0.57 and

0.29 for the United States and for Israel, respectively. This pattern may be due, at least in part, to the differences in the costs of attending elite and nonelite colleges and universities. Such differences are substantially greater in the United States than in Israel, where all traditional universities are publicly supported. On the other hand, tuition policies in the United States are less transparent than they are in Israel. For example, while the average sticker price of 28 of the most elite colleges and universities in American hovered around $35,000 per year (in 2001 dollars) between 1998–99 and 2002–03, the average net price charged to students in the bottom income quintile of attendees was just under $10,000 (Hill, Winston, and Boyd 2005).

The results provide evidence that, consistent with our hypotheses, inequality in higher education destinations is greater in the United States than in Israel, before and after academic achievements are controlled. Inequality in socioeconomic status is more salient than is ethnic inequality in the United States, whereas the opposite is true in Israel.
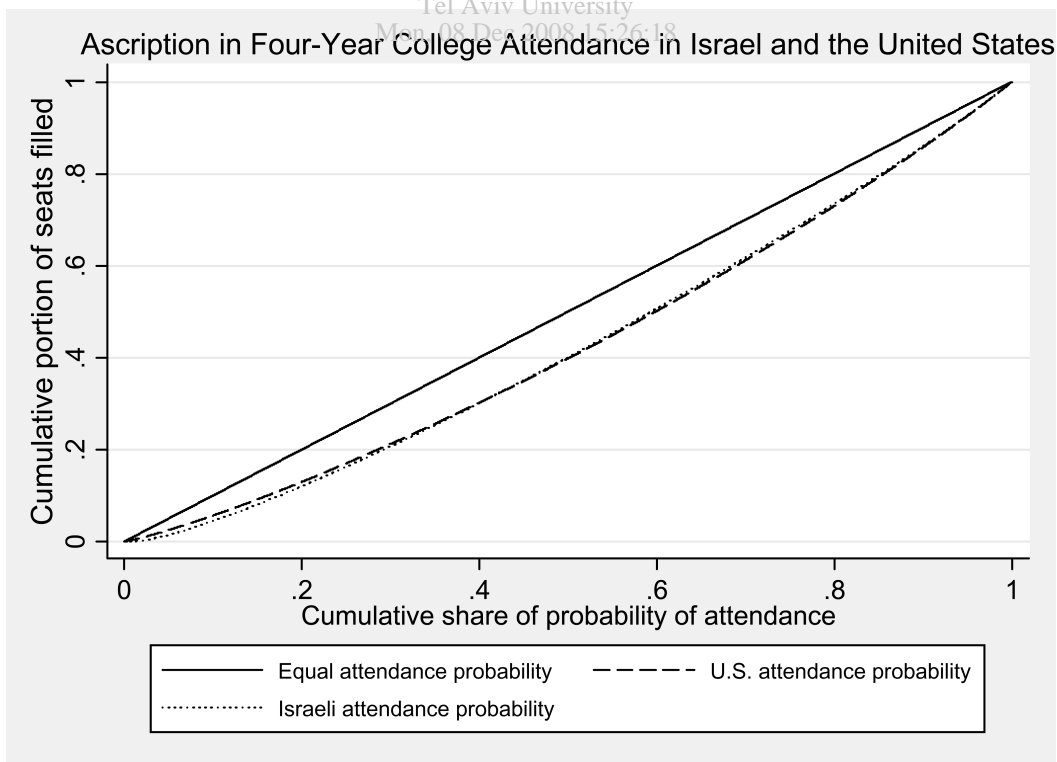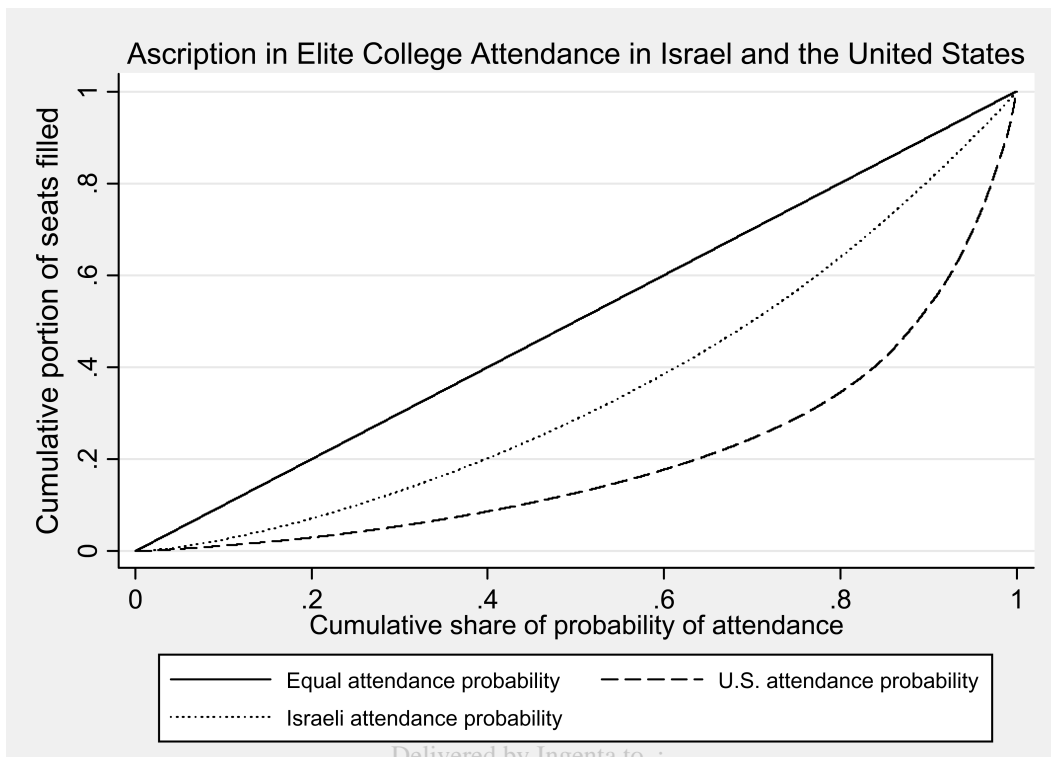
Figure 3. Ascription in Nonelite Colleges and Universities

Figure 4. Ascription in Elite Institutions

DISCUSSION

The United States and Israel represent two different modes of diversification of higher education. In the United States, the second-tier institutions of higher education consist mainly of community colleges, a sector that lacked the charter to grant baccalaureate degrees during the years included in our analyses. In Israel, second-tier institutions grant baccalaureate degrees and maintain a certain level of selectivity, while postsecondary vocational institutions are officially excluded from the higher education system. We hypothesized that the different modes of diversification would create different patterns of stratification: Higher education attendance would be a more significant source of stratification in Israel than in the United States, whereas higher education destinations would be a more significant source of stratification in the United States.

Our investigation of similarities and differences in socioeconomic inequality in attendance patterns in higher education showed that students in the United States appear more likely to attend a college or university than do comparable students in Israel. However, the United States shows little evidence of providing more equitable access to higher education than does Israel. If anything, the relative odds of attending an institution of higher education within each nation show that participation in higher education is more stratified in the United States than in Israel. Overall, we view the evidence as failing to support the hypothesis that socioeconomic stratification in higher education attendance is more pronounced in Israel than in the United States.

The results pertaining to socioeconomic inequality in higher education destinations among those who attend a college or university generally support our hypothesis. Socioeconomic inequality in the type of higher education institution that students attend in Israel appears to be largely mediated by prior academic achievement. As expected, the second-tier institutions in Israel cater to less academically prepared members of the

same population who enroll in the traditional universities. In other words, in Israel the second-tier institutions may not extend opportunities to the disadvantaged so much as they broaden the pool of institutional options that are available to the advantaged.

Another interpretation of the Israeli destination coefficients is that the expanded higher education system caters to a variety of social groups, and members of the various groups are equally distributed between the universities and the colleges. This interpretation assumes that the diversification is accompanied by a change in the social composition of university students. This assumption is problematic in view of the fact that the establishment of the *michlalot* did not cause significant changes in the selectivity of the universities (Shavit et al. 2002).

Contrary to the Israeli findings, the results for the United States show that students from lower-status families are more likely to enroll in community colleges, even after prior academic achievements are taken into account. Consistent with our hypothesis, community colleges attract students from more modest origins, regardless of their level of academic achievement. Although we cannot say what proportion of these students would have attended baccalaureate-granting institutions in the absence of community colleges, it seems clear that higher education destinations continue to be shaped by students' social backgrounds

What is perhaps surprising is that the results for ethnic inequality in higher education run counter to those for socioeconomic inequality. In particular, ethnic inequality, both in enrollment in any higher education institution and in destinations conditional on enrollment, is greater in Israel than in the United States. The American data reveal no disadvantages for any minority group, net of social background. In fact, after conditioning on academic achievement, we find clear advantages for Asian American, Hispanic, and African American students relative to white students in enrollment in elite institutions. The results may reflect affirmative action programs that have endeavored to bring greater representativeness to university populations across the country (Alon and Tienda 2005;

Grodsky 2007; Grodsky and Kalogrides forthcoming). This pattern may also reflect unmeasured characteristics of minority students who are successful in gaining admission to elite institutions. Despite these results, African American, Hispanic, and Native American students are still dramatically underrepresented in the most prestigious types of institutions of higher education. These inequalities are masked by the controls for social background and prior achievement.

In the case of Israel, Mizrachi students are no more likely to enroll in *michlalot* than they are to enroll in nonelite universities, a finding that runs counter to the common claim that the *michlalot* cater to Mizrachim and thus increase their access to higher education. Moreover, Mizrachi students exhibit lower relative odds of enrolling in elite universities than do Ashkenazi students, even after social background, geographic location, and achievement are taken into account; hence, we conclude that higher education in Israel persists in maintaining the ethnic privilege of the Ashkenazi Jewish population. Arab students exhibit greater relative odds of attending the *michlalot* and are as likely to attend elite institutions as are otherwise similar Ashkenazi students. The second-tier institutions are therefore opening up opportunities for Arab students to enroll in higher education.

We expected that the different modes of diversification in Israel and the United States would produce different modes of inequality in higher education. This is indeed the case, although not necessarily in the expected direction. The Israeli and American systems reveal different patterns of socioeconomic inequality in destination, but not in attendance. In other words, students of lower socioeconomic strata are similarly disadvantaged in enrollment in higher education in the two countries, despite the relative openness of the second-tier institutions in the United States. This comparative finding is qualified by the fact that the odds of enrolling in any institution of higher education are higher in the United States than in Israel, all else being equal. Thus, while access to the U.S. system of higher education is more stratified than is access to the Israeli system, stu-

dents in the United States enjoy greater access to higher education.

The historical and institutional contexts of Israel and the United States have helped shape the systems of higher education in each nation in different ways. Although it is beyond the scope of this project to identify the specific historical mechanisms underlying the divergent evolutions of these two systems, we hope that our findings will help persuade readers of the role that national context plays in structuring the relationship between social stratification and higher education.

NOTES

1. For the sake of clarity, we use the terms *postsecondary* and *tertiary* in this article to refer to all types of formal schooling past secondary school, including baccalaureate and nonbaccalaureate programs, certificate programs, and credential programs. We reserve the term *higher education*, however, for pathways to programs that offer a baccalaureate degree, including the community college.

2. Data presented by the Carnegie Foundation (1994) showed that two-year colleges accounted for the largest share of institutions in the United States in 1970 and continued to pull away from other types of institutions over the next three decades (see also Coley 2000; Dougherty 1994). In 2000, about half the students in public institutions were enrolled in community colleges, up from 25 percent in 1965 (Roksa et al. 2007).

3. For the cohorts we studied, no community colleges granted baccalaureate degrees. More recently, however, some states have chartered community colleges to grant baccalaureates (American Association of State Colleges and Universities 2004).

4. Expansion of higher education in Israel started in 1990 and was rapid: Between 1990 and 2000, the number of students in Israeli institutions of higher education increased from 76,000 to 160,000. This growth primarily reflects the expansion of the *michlalot*. In 1990, *michlalot* students constituted 15 percent of Israeli baccalaureate students, where-

as 10 years later, their proportion increased to 48 percent (Council for Higher Education, 2008).

5. The *michlalot* can be divided into five major types (Ayalon and Yogev 2006). Publicly maintained *michlalot*, supported by the CHE, provide undergraduate training in technology, the arts, and liberal arts. Regional *michlalot*, also under CHE control, were established in the 1970s as university branches in peripheral areas; they became independent of their parent institutions in the 1990s. Teacher *michlalot*, originally established for teacher education, have become degree granting and are maintained by the Ministry of Education. Private *michlalot* have been established by Israeli entrepreneurs and charge high tuition and fees; they concentrate on providing training in popular and lucrative fields of study, such as business administration, law, and computer sciences. Finally, several branches of foreign universities—mainly of British, American, and former Soviet Union institutions—have begun to enroll students in Israel; they charge high tuition and fees for studies in various fields leading toward foreign diplomas.

6. Israel has, similar to the United States, a number of institutions that offer postsecondary nonacademic programs. Unlike U.S. community colleges, however, these programs are not considered part of the expansion of higher education in Israel (e.g., Guri-Rosenblit 1999; Shavit et al. 2002). Nonacademic postsecondary programs are offered in institutions that constitute a unique sector that is separate from higher education. These institutions are controlled by the Ministry of Labor, not by the CHE, and their graduates are granted governmental or institutional vocational certificates, not academic degrees. Students can be accepted to nonacademic institutions without the matriculation certificate, required for admission to all universities and *michlalot* (Yogev, Livneh, and Pizmony-Levy 2004). There is no formal provision for transferring from a vocational program outside the purview of the CHE to a baccalaureate program within the purview of the CHE. The vocational certificate is not considered a substitute for the matriculation diploma in either the universities or the *michlalot*.

7. The methodology used by *U.S. News and World Report* is subject to annual complaints by the higher education community. However, the names of the Tier 1 universities and colleges, including Harvard, Yale, and Princeton, are familiar to many Americans as the prestigious or "name-brand" colleges and universities. Furthermore, Zemsky, Shaman, and Iannozzi (1997), using more objective criteria than those used by *U.S. News and World Report,* found that they were able to approximate the *U.S. News and World Report* rankings with high reliability.

8. The hypothesized direction for the bias in estimates of ascription follows from observed patterns of students' transfers. For example, of the 3,280 students who begin their postsecondary careers in a community college, 222 eventually transfer to a four-year college or university, and 14 of those transfer to an elite four-year college or university. Assuming that students who start at two-year colleges are, on average, less advantaged than are those who start at four-year colleges, it follows that students who transfer from two-year to four-year institutions are, on average, less advantaged than are those in four-year institutions.

9. In the missing category, we included reports from spouses and students of "don't know" for mother's or father's education.

10. We conducted slightly modified parallel analyses using both data sets to validate our findings. The results differed primarily because of differences in the stage of expansion when they were collected (1992–98 versus 1999). Further details are available on request.

11. Fields of study in Israel are divided between prestigious fields, in which male students of higher socioeconomic backgrounds and higher academic ability tend to be overenrolled, and less prestigious fields, which mainly absorb students with the opposite characteristics (Ayalon and Yogev 2006). Among the fields excluded from our study, the exact sciences and medicine belong to the first category, and the humanities belong to the second category. In 1999, 6,006 of the first-year university students studied the humanities and 4,507 studied exact sciences and medicine (Israel Central Bureau of

Statistics 2001). Students in the fields that were included in our analysis were similarly divided between the two categories: 6,799 students studied education, arts, and the social sciences (less prestigious fields), and 4,390 studied the prestigious fields of business, law, and engineering, The exact sciences and medicine tend to overenroll men and students of higher socioeconomic background and higher academic ability, whereas women and those of lower socioeconomic background and moderate ability are overrepresented in the humanities (Ayalon 2003). Students in the excluded fields were thus divided between prestigious and less prestigious fields almost equally as students in the included fields. Thus, the exclusion of certain fields from the analysis did not cause an acute overrepresentation of any group of students, thereby reducing a possible threat of selection bias.

12. Age was not included in the U.S. analyses because the U.S. sample was drawn from a particular cohort (eighth-grade students in 1988), so age did not vary meaningfully.

13. Since the *michlalot* offer only academic programs and the community colleges offer both academic and vocational programs, we considered the possibility that limiting the analysis only to students enrolled mainly in academic courses in community colleges would improve the comparability of the two systems. In models not shown, we classified students as academic if 50 percent or more of the credits they earned were academic (based on the 1998 revision to the HSTS, NCES 1999–96). The results of the analyses based on that classification were similar to those presented here and are available on request.

14. If we restrict our attention in the U.S. context to full-time college attendees, we get different results. Gross odds of attendance under this definition more closely approximate the gross odds in the Israeli case. For children of parents with less than a college education, the odds of attendance under this specification are actually lower (0.53) than the comparable Israeli odds (0.63). This finding implies that part-time programs increase the opportunity to learn in the United States. The exclusion of part-time students does not

change the results for Israel because part-time programs are marginal and rare.

15. One must be particularly cautious in comparing achievement models for college attendance. The available data on secondary school achievement include GPA, test scores, and track, in the U.S. case, but only track and whether or not a student took the matriculation examination in the Israeli case.

16. The difference between the coefficients of parental education in the two countries is statistically significant in both the ascription and the achievement models, according to Wald chi-square tests. However, since the American and Israeli models are not identical, this statistical test should be viewed with caution.

17. It is not clear why the coefficient for father's post-high school education is significant in the achievement model (suggesting that the children of high school dropouts are more likely than are those whose fathers attained some college to attend elite colleges).

18. With scaled-down models of the destination analysis, we were able to compare the results from the survey data to those from the ICBS. These models examined university versus *michlala* attendance and included only gender, ethnicity, father's education, and high school track. The comparison revealed similar coefficients for father's education, but a larger disadvantage for women than for men and a smaller disadvantage for Arab students versus Ashkenazi students. The vocational-track effect also appears smaller in the ICBS data. These results do not change our basic conclusions, but the differences may reflect the effects of expansion between 1991 (ICBS) and 1998 (survey) and warrant further investigation in the future.

19. This is not the case under alternative approaches to classifying elite institutions based on the average SAT scores of their incoming freshmen. In models defining elite schools as the top 5 percent or 10 percent in terms of freshmen SAT scores, father's SEI has a significant effect on the odds of attending an elite as opposed to a regular four-year college or university. The contribution of mother's SEI is unchanged across models.

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APPENDIX A

To assess the extent to which the survey data are representative of the population of Israeli university and *michlalot* students, we compared marginal distributions of several demographic measures across the two data sources. Table A1 compares the distributions of gender, socioeconomic status, ethnicity, and secondary-school track of the members of the higher education survey sample with those of the ICBS students who started academic postsecondary education by the end of the ICBS follow-up survey. The comparison indicates substantial similarity in the composition of the two samples by ethnicity and proportion of vocational-track students. The samples differed slightly in the proportion of males, but differed substantially in the proportion of students whose fathers had some postsecondary education (46 percent in the ICBS and 62 percent in the survey). The overrepresentation of fathers with postsecondary education in the survey can be partly explained by the fact that the survey did not include students of the humanities, a field of study that usually caters to students of lower socioeconomic strata. This difference may also reflect changes in the structure of higher education during the 1990s.

Table A1. Descriptive Statistics for the Survey and ICBS Data

Variable	ICBS	Survey
Male	0.38	0.43
Vocational track	0.18	0.17
Ethnicity		
Arab	0.07	0.04
Mizrachi	0.26	0.29
Father's Education		
< college	0.54	0.38
College or more	0.46	0.62
N	21,753	4,146

APPENDIX B

Table B1. Descriptive Statistics for the Israeli Sample

Variable	Mean	SD
Sex		
Female	0.57	0.50
Ethnicity		
Ashkenazi	0.67	0.47
Mizrachi	0.29	0.46
Arab	0.04	0.20
Missing	0.01	0.10
Age	23.49	4.18
High School Location		
Periphery	0.25	0.43
Center	0.75	0.43
Father's Education		
Less than high school	0.23	0.42
High school	0.15	0.36
Post-high school	0.22	0.42
BA	0.20	0.40
Post-BA	0.14	0.35
Missing	0.01	0.10
Mother's Education		
Less than high school	0.20	0.40
High school	0.21	0.41
Post-high school	0.21	0.41
BA	0.22	0.41
Post-BA	0.14	0.34
Missing	0.01	0.07
Parents' Occupation		
Father's occupational prestige	61.80	22.00
Missing	0.10	0.30
Mother's occupational prestige	54.40	17.70
Missing	0.23	0.42
Academic Achievement		
Vocational track	0.17	0.37
Academic track	0.82	0.38
Track missing	0.01	0.09
Bagrut	93.80	9.40
Bagrut missing	0.07	0.26
Psychometric test	616.7	69.6
Psychometric test missing	0.16	0.35

APPENDIX B

Table B2. Descriptive Statistics for the U.S. Sample

Variable	Mean	SD
Sex		
Female	0.51	0.5
Race/Ethnicity		
White non-Hispanic	0.75	0.43
Asian/ Pacific Islander	0.04	0.21
Hispanic	0.09	0.28
Black	0.11	0.31
Native American	0.01	0.1
Father's Education		
Less than high school	0.09	0.29
High school	0.2	0.4
Some college	0.33	0.47
BA	0.17	0.38
Graduate training	0.16	0.37
Missing	0.05	0.21
Mother's Education		
Less than high school	0.11	0.31
High school	0.24	0.43
Some college	0.42	0.49
BA	0.15	0.36
Graduate training	0.07	0.26
Missing	0.02	0.14
High School Location		
Urban	0.29	0.45
Suburban	0.43	0.5
Rural	0.31	0.46
Parents' Occupation		
Mother's SEI	50.7	20.3
Mother's SEI missing	0.09	0.28
Father's SEI	46.8	22
Father's SEI missing	0.08	0.28
Academic Achievement		
8th-grade test composite	29.7	6.5
8th-grade test missing	0.03	0.17
12th-grade test composite	37.2	7.6
12th-grade test missing	0.2	0.4
Academic track	0.54	0.5
General track	0.32	0.47
Vocational track	0.07	0.26
Other/missing track	0.07	0.25
GPA	2.7	0.66
GPA missing	0.13	0.34

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