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Educational stratification among Arabs and Jews in Israel: Historical disadvantage, discrimination, and opportunity

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Arabs in Israel are a heterogeneous but largely underprivileged minority with a history of disadvantage in several domains, including education and employment. In this paper, we document changes in their attainment of various educational levels across cohorts born from the mid-1920s to the 1970s. We make comparisons among different Arab religious groups, between men and women, and between Arabs and the majority Jewish populations in Israel. We find that over consecutive birth cohorts, substantial ethnic differences in educational attainment have narrowed at the lower levels of schooling, but have increased at higher levels. Moreover, the results indicate that the disadvantage of Muslim Arabs in terms of entry into and completion of high school can be accounted for only partially by differences in the social status of their parents and characteristics of their neighbourhoods. The findings suggest that long-term historical differences among groups and discriminatory practices towards Arabs are important factors in explanations of disparities in educational attainment.

Keywords: education; Israel; Arabs; Muslims; discrimination

[Submitted June 2004; Final version accepted December 2004]

Arabs in Israel are a heterogeneous but largely underprivileged minority with a history of socio-economic disadvantage. Within this minority, as has been common in many Islamic cultures, a characteristic of the Muslim sector of the Arab Israeli population has been the existence of large disparities between the sexes in educational attainment. In this paper, we document changes in ethno-religious differentials in educational attainment across birth cohorts from the mid-1920s to the 1970s. We make comparisons among different Arab religious groups, between men and women, and between Arabs and the majority Jewish populations in Israel.

We also analyse determinants of educational attainment, including social, economic, demographic, and community-level factors in childhood. We quantify the impact of these factors on disparities in educational attainment across ethnic and religious groups, using multivariate logistic regression analyses of a sample of the birth cohort of 1960–69. Ours is the first systematic use of large-scale, representative data to study trends and

differentials in the educational attainment of Arabs and Jews in Israel, by ethnic origin, religion, and sex.

Background

Political and demographic developments

To understand ethnic relations in Israel between Arabs and Jews, it is necessary to take account of the conflicts between Israel and its Arab neighbours. Following the 1948 War of Independence and the establishment of the State of Israel from parts of what had been the British Mandate of Palestine, the Arab population in this area experienced extreme demographic, social, and economic change. While exact figures are not available, it has been estimated that in 1947 Mandate Palestine had an Arab population of roughly 1.2 million, between 750,000 and 900,000 of whom resided in the territory that later became Israel. During 1948, most of these Palestinian Arabs were expelled or fled from their

homes, so that only approximately 156,000 remained in Israel immediately following the War of Independence. Moreover, it has been suggested that the more educated, urban professional and business classes were less likely to have remained in their homes, so that what was left of the Arab population in Israel was quite poor, uneducated, and agrarian; the remnants of the Arab economy in Israel lacked a significant manufacturing and trade infrastructure (Goldscheider 1996). Immediately following Statehood, the depleted population of Arabs comprised roughly 19 per cent of the population of Israel, with a Jewish population comprising the rest (Friedlander and Goldscheider 1979; Lewin-Epstein and Semyonov 1993). Since 1948, the proportion of Arabs in the population of Israel has remained fairly steady; the higher natural growth rate of the Arabs has been roughly counterbalanced by heavy Jewish immigration.

In 2001, Muslims comprised roughly 82 per cent of the total Arab population of Israel, while the Christian and Druze populations comprised about 9 per cent each. Differential population growth has been primarily a function of heterogeneous fertility patterns, with Muslim and Druze women maintaining levels of total fertility of between four and five, following reductions in fertility from strikingly higher levels, while Christian total fertility fell to roughly 2.6 during the period 1995–2000 (Goldscheider 1996; Friedlander 2002). Long-term differences in socio-economic status between Muslim and Christian Arab groups, which emerged roughly 100 years ago in various societies, have been noted as a general characteristic of the Middle East. Differences between these population groups took the form of higher educational attainment, higher status of women, lower child mortality, greater urbanization, and more exposure to the West among the Christian Arabs (Courbage and Fargues 1997).

Ethno-religious differences in socio-economic status and discrimination

A distinction should be made between socio-economic inequalities originating from historical disparities and those resulting from discriminatory action. Historical disparities affect current ones in part as a result of intergenerational processes by which family background influences the socio-economic attainments of each successive cohort. Historical disparities have other long-term effects as well, through

the evolution of institutional and cultural differences between groups. In contrast, by discrimination, we refer to law and policy, formal and informal, which lead to poorer outcomes in education and economic status among Arabs than among Jews. Discriminatory practices operate through the direct impact on family background, as well as through the effects of institutions and accepted practices.

Therefore, at least two interrelated factors need to be considered in analyses of ethno-religious disparities in educational attainment among birth cohorts in Israel: (i) disparities in socio-economic status among pre-State birth cohorts—the legacy of past inequality in the Mandate period; and (ii) discriminatory practices since the foundation of the State. Intergenerational transmission of low socio-economic status over generations coupled with long-term, discriminatory practices, have affected ethno-religious disparities in educational status directly, and indirectly via differentials in the advantages conferred by family background. Below, we outline a few examples that illustrate the kind of discrimination that has contributed towards ethno-religious inequalities in educational attainment and economic status.

Although formally, Israeli Arabs, like Israeli Jews, have citizenship status, they are subject to various forms of discrimination that have contributed to social and economic disparities between the Jewish majority and the Arab minority. From 1948 to 1966, Arabs lived under military administration and were confined to specific geographic areas. They were thereby severely limited in their ability to travel in pursuit of educational and training opportunities and to compete for better jobs in the labour market. Although formal restrictions on their mobility have been relaxed since 1967, the fact that Arabs were denied the right of free movement for almost two decades could have long-term consequences for Jewish–Arab inequality.

Despite abolition of the military administration, and the granting to Arabs of the legal right of free movement, internal migration among Arabs has been quite limited in scope. Consequently, there is extreme residential segregation in Israel between Jews and Arabs, explained by historical circumstances during the Mandate period, later military rule, and more recent social exclusion and financial limitations. The great majority of Arabs in Israel reside in villages and towns in which they are the sole inhabitants, and there are few ‘mixed’ localities in the country that contain both significant Jewish and Arab populations. Also, the regional residential concentration of Arabs is high: nearly half of all

Arabs live in the more peripheral, northern region of the country, whereas only about 10 per cent of Jews live there.

Residential areas that are largely populated by Arabs have been excluded from national planning projects, resulting in inadequate infrastructure and an inability to obtain zoning approvals for commercial and industrial development. This factor, together with large declines in agriculture—a sector which provided employment to the majority of Arabs in the past—has led to a lack of economic opportunity in Arab areas. This shortage of work opportunities has forced Arabs to seek employment in the Jewish sector of the economy, mostly as skilled and unskilled labourers. Thus, the majority of Arab men today commute to work in Jewish areas (Lewin-Epstein and Semyonov 1993).

For Arab women, the situation is perhaps even more extreme. Because they are limited by cultural norms to working in their own communities, their job prospects are largely determined by local opportunities. Only recently have Jewish controlled companies established small factories in Arab villages in order to employ local women at low wages (Shavit 1990). The small, but growing proportion of Arab women in the labour force are generally better educated than their male counterparts and work almost exclusively in the Arab public sector, in educational and similar institutions. The feminization of the teaching profession in the Arab schools is under way, even if it is lagging behind the Jewish sector in this respect (Al-Haj 1995). In this way, the growing numbers of educated Arab women may be threatening even further the limited economic opportunities available to their educated male counterparts.

Arabs suffer discrimination in the labour market. Although there is no law or regulation that specifically prevents Arab job candidates from gaining employment in specific areas, they are in practice largely excluded from many sectors, including government service and the defence-related industrial sector (Lewin-Epstein and Semyonov 1993). Therefore, Arabs with tertiary education are often limited in their employment opportunities to the public sector in local Arab areas, in fields such as education, health, and welfare (Al-Haj 1995).

During the first decades of Statehood, the Arab educational system expanded rapidly, partly in response to larger birth cohorts, and partly as a result of new laws providing for compulsory primary education and free secondary education. This expansion increased the labour-market demand for educated Arabs, particularly for teachers and educa-

tional administrators (State of Israel 1955). In recent years, the expansion has slowed significantly. This change, together with an increasing number of Arab university graduates in need of employment, has resulted in a growing mismatch between educational attainment and occupational rewards (Shavit 1990; Lewin-Epstein and Semyonov 1993).

Discrimination in the labour market, along with other factors, explains why the distribution by economic sectors of the Arab labour force is so different from that of the Jewish labour force. While Jews are over-represented in higher-status occupations and are more likely to be employed in professional, scientific, and managerial positions, Arabs, especially men, are over-represented in skilled and unskilled manual occupations (Kraus and Yonay 2000). This in part accounts for the large income differences between Jews and Arabs (Lewin-Epstein and Semyonov 1993).

The educational system

Although publicly funded education is available to the entire population, including Arabs, the educational systems of the Jewish majority and the Arab minority are almost entirely separate. Within the Israel Ministry of Education, distinct administrative bodies operate the Jewish and Arab systems. With few exceptions, Arab students do not study with Jewish students in the same school. Moreover, in the large majority of cases, Arab teachers work in the Arab schools and Jewish teachers work in the Jewish schools. In primary and secondary schools, instruction in the Arab sector is in Arabic, with Hebrew taught as a second language, whereas Hebrew is the language of instruction in the Jewish system. The only educational level where integration occurs is the post-secondary level, which includes universities and colleges.

Another important distinction between Jewish and Arab schools is in the distribution of students between academic and vocational 'tracks'. Secondary education in Israel comprises two tracks—an academic track, the aim of which is to prepare students to pass the matriculation exams and continue to post-secondary studies, and a vocational track. The proportion of Jewish children who study in the academic track has traditionally been smaller than the corresponding proportion among Arab children. Shavit (1990), Klinov (1996), and Mazawi (1998) discuss possible explanations for the limited

development of the vocational track in the Arab sector.

It is well documented that the chances of attaining a matriculation diploma are significantly higher among those in the academic track than among those in the vocational track (e.g., Shavit 1990; Friedlander et al. 2002a). In fact, many vocational secondary schools do not prepare their pupils for the matriculation exams. Therefore, all other things being equal, those population groups with higher proportions of high-schoolers enrolled in the academic track (Arabs) would tend to have higher proportions earning matriculation diplomas, which thereafter open doors to post-secondary education. In fact, despite their greater likelihood of studying in the academic track, Arab students generally have lower overall rates of matriculation and post-secondary school enrolment than do their Jewish counterparts.

Most primary and secondary school students in the Jewish sector attend State-owned schools, although there has been a recent trend toward establishing some semi-private schools, which are supported in part by the State or the municipal government or both. In the Arab sector too, some schools, particularly at the secondary level, are privately owned and operated by various Christian denominations. Having developed from a history of Christian education and community organization going back to the Ottoman period, these Christian private schools are generally considered to be of better quality than State-run Arab schools, and are preferred by those who can afford to attend them (Al-Haj 1995; Kraus et al. 1998). Private Christian schools are selective in their admissions policy, and generally give preference to Christian applicants over Muslim applicants. Moreover, Arab private schools are generally located in larger urban areas, which have higher concentrations of Christians than do smaller localities. During the late 1970s, roughly three-quarters of students in private Arab primary schools were Christian, while only about one-quarter were Muslims (Bashi et al. 1981).

An exceedingly important development in Arab education in Israel was the introduction of co-educational schooling. Driven largely by practical considerations and a severe shortage of female Arab teachers, rather than an ideological position, the decision by the government of Israel soon after Statehood to make Arab education co-educational had a huge impact on the educational level of Arab girls and women (Al-Haj 1995).

Educational inputs

Long-standing discriminatory policies in the employment and education arenas in Mandatory Palestine and Israel have contributed to continuing ethno-religious inequality both among past and more recent cohorts. British neglect of the educational system in Palestine, motivated primarily by financial and political concerns, hurt the Arab population in particular (Segev 2000). Jewish education during the British Mandate was largely funded by internationally based Jewish institutions which worked to provide the basis for a cohesive and viable Jewish community in Palestine. Jewish-run schools for Jews were universally available and well attended, while in the Arab communities educational opportunities were much more limited. Illiteracy rates for Arab adult men and women were over 70 and 90 per cent, respectively, in 1931, while the corresponding rates for Jews were only 6 and 22 per cent (Metzer 1998). In the first two decades following Statehood, shortages of qualified teachers, suitable textbooks, and adequate physical facilities affected the quality of Jewish schools and severely hampered the spread of education in the Arab sector, but these conditions began to improve, especially in the 1970s.

Although official published data on direct monetary investments in education in Arab and Jewish localities were found to be of questionable quality, Table 1 documents several robust indicators of an unfair allocation of resources in the primary educational system between Arabs and Jews since the early 1970s. For example, teachers' services per pupil are greater in the Jewish sector—this measure reflects expenditures on education per student, since teachers' salaries are one of the main components of the education budget. Also, Jews enjoy consistently smaller class sizes than do Arabs, as well as more special services such as psychological counselling and access to a school library. An educational enrichment programme, begun by the Ministry of Education in the 1960s, was intended to raise educational levels in schools with disadvantaged pupils; however, no funding for this programme was allocated to the Arab sector until the mid-1990s. The funding the sector has since received has been small relative to its proportion of underprivileged students (Nesher 1994). A higher proportion of teachers in the Jewish sector than in the Arab sector have college degrees, and a smaller proportion are not formally qualified as teachers, although the ethnic disparity in the latter characteristic

Table 1 Indicators of quality of educational inputs, by ethnicity of educational sector and time period, Israel c.1970–2000

	Educational sector	Circa 1970	Circa 1980	Circa 1990	Circa 2000
Per cent primary school teachers not certified	Arab	50.7	27.5	6.8	8.0 ¹
	Jewish	15.5	16.1	4.9	4.0 ¹
Per cent primary school teachers with an academic degree	Arab	4.6	8.6	14.5	36.3 ¹
	Jewish	6.5	13.8	24.0	48.3 ¹
Weekly hours of teachers' services per primary school pupil	Arab		1.21	1.15	1.52
	Jewish		1.58	1.46	1.89
Average number of pupils per primary school class	Arab	30.8	31.1	30.6	29
	Jewish	25.5	25.7	26.1	24
Access to Ministry of Education enrichment programme	Arab	No	No	No	Some
	Jewish	Yes	Yes	Yes	More
Per cent primary schools with psychological counselling services	Arab			44.4	
	Jewish			91.3	
Per cent primary schools with services from truant officers	Arab			51.1	
	Jewish			64.7	
Per cent primary schools with a school library	Arab			55.0	
	Jewish			73.0	

¹Excluding unknown.

Sources:

(a) Per cent non-certified teachers and per cent academically trained teachers for 1970–71, 1980–81, 1992–93, and 1999–2000: *Statistical Yearbook of Israel* 1994, 2002.

(b) Weekly hours of teachers' services per primary pupil for 1979–80, 1989–90, 2002: Kop 2002.

(c) Average number of students per primary class for 1972–73, 1979–80, 1989–90, 2001–2002: *Statistical Yearbook of Israel* 1973, 1984, 1994, 2002.

(d) Access to enrichment programme: Neshet 1994.

(e) Psychological counselling, truant officers, and library services for 1995: *Survey of Educational Services 1994/95*.

has essentially disappeared among those becoming teachers in recent years. Data on resources allocated at the high-school level show similar ethnic disparities over the period under consideration, although there does appear to be some narrowing of disparities in the very recent past.

Data, variables, and methods

Our primary data sources are micro-level 20-per-cent samples from each of the 1961, 1972, 1983, and 1995 Israeli census files. These samples are used to track changes in educational attainment across birth cohorts. In addition, we analyse a data file that links individuals in the 20-per-cent sample of the 1995 Israeli census with information on their family background taken from their household of origin in the 20-per-cent sample of the 1983 Israeli census. In effect, the special file comprises approximately 4 per cent (0.20×0.20) of the population enumerated in the full 100 per cent 1983 census who were aged 2–32 in 1983 (15–45 in 1995). The merging procedure, which was based on the linkage of data files, using confidential, personal identification numbers for individuals, was carried out by the Israel Central Bureau of Statistics.

Details of the sample and linkage procedure can be found in Friedlander et al. (2002a).

In this study we analyse a subsample of the linked file comprising individuals born in 1960–69. The linked file combines detailed educational histories available from the 1995 data with socio-economic and demographic characteristics of the family of origin, such as educational attainments and economic status of respondents' parents and number of siblings from the 1983 data. Also, the linkage enables us to determine the locality of residence in 1983 of the household of origin of the 1995 respondents. We use this information to then merge a set of locality-level data on class size and educational opportunities, as well as an index of socio-economic status at the neighbourhood level (Ben-Tuvia 1986), with the individual-level records in the linked 1983–95 file.

The educational data included in the linked sample are particularly rich. Respondents aged 15 and over in 1995 were asked to report whether, and if so, for how many years they attended each of a number of different types of school, ranging from primary school to university. A distinction is made between those who studied in academic secondary schools and those who studied in vocational high

schools. In addition, the important distinction is made between high-school graduates who hold a matriculation diploma and those who do not. Attaining a matriculation diploma is a critical step in the Israeli educational system because this diploma is a prerequisite for acceptance in most types of post-secondary education, and is an advantage in the job market.

The linked sample used in this study includes only Arabs and Jews living inside the borders of the State of Israel (not including the Occupied Territories). The sample excludes the Arab population of East Jerusalem, the majority of whom do not study under the Israeli system, as well as the Bedouin population, for whom data quality is known to be especially poor. In addition, we exclude from analysis members of the Druze population of Israel because of small numbers of cases and a large number of missing variables.

Trends in educational attainment across birth cohorts: Arabs and Jews

In tracking trends, we examine educational attainment across Arab groups and make comparisons with educational attainment among certain groups of Israeli Jews. One particularly interesting Jewish group for comparison comprises those who are first-generation or second-generation immigrants from Middle Eastern (Asian) countries, including parts of other formerly European-controlled areas such as Iraq and Syria. It has been argued that Jews from Arab countries were rather similar in socio-economic and other characteristics to the Arab populations among whom they had lived in their countries of origin, and that for these Jewish newcomers to Israel in the early years of Statehood, immigration implied a structural discontinuity and the beginning of a cultural and socio-economic transformation (Goldscheider 1996; Fargues 2000). Tracing and comparing the educational trajectories of Jews of Asian descent with those of Arabs born in Mandatory Palestine and Israel will provide insight into differences in the educational evolution of two historically disadvantaged groups who faced a new beginning in the State of Israel.

For a variety of reasons, including differential placement of newly arrived immigrants in geographically and economically peripheral areas, as well as initially lower levels of development in their countries of origin, Jews of Asian ancestry have had lower socio-economic status than the dominant group of Jews, who are primarily of Eastern

and Central European origin. While a process of convergence in educational attainments is in progress, disparities in relation to the European group still remain (Friedlander et al. 2002b). Thus, the first-generation and second-generation Jews of European origin are also an interesting comparison group—one that has traditionally represented the most privileged groups in Israel.

A third Jewish ethnic group—in addition to the European and Asian groups—is that of the North Africans and their descendants. Israelis of North African ethnicity have also been disadvantaged socio-economically (Friedlander et al. 2002a). However, we do not include Jews of North African ethnicity in this paper since the relatively late timing of their immigration to Israel makes their exposure to the Israeli educational system shorter in duration than that of Arabs, who were in Israel from the founding of the State in 1948.

We first examine trends in exposure to various levels of schooling for different ethnic and religious groups, separately by sex and birth cohort. Our aim in this section is to identify educational disparities across the various groups among the earliest birth cohorts available, and to take these initial disparities as the starting point for the rest of the study. For this purpose, we analyse 20-per-cent samples from various Israeli census files, from 1961, 1972, 1983, and 1995. Our strategy is to examine different birth cohorts in the different cross-sectional census files, in order to track trends.

The earliest cohorts of Arabs examined, those from the 1920s, were born just after the institution of the British Mandate in Palestine, following the defeat of the Ottoman Empire in the First World War. Arabs born at this time were subject primarily to the educational system administered directly by the British. Arabs born in the 1945–49 cohorts were the first to be fully exposed to the educational system as operated by the newly founded State of Israel.

Our aim is to compare educational levels among cohorts of Arabs born in the Mandatory period with levels among corresponding early, first-generation Jewish cohorts also born before Statehood, and then to follow-up by comparing disparities in education between cohorts of Arabs born after Statehood with later, second-generation Jewish cohorts, all of whom were born into the Israeli educational system. As mentioned above, for comparison purposes, we include cohorts of Jews of Asian descent and of European descent. For the birth cohorts from 1920–24 to 1940–44, we include Jews who were born abroad and immigrated to Israel during the first

10-year period following Statehood (1948–57). Starting with the birth cohort of 1945–49, Jews included in the analyses are those who were either born in Israel, or who arrived in Israel before age 7, and were thus fully exposed to the Israeli educational system and their new Israeli society. Compared with the immigrant first-generation, second-generation (and subsequent generation) Jews are farther removed from their cultural roots and more exposed to socio-economic conditions in the State of Israel.

In general, we describe patterns of convergence in terms of changes over birth cohorts in the absolute percentage-point differences between ethno-religious groups in proportions attaining various levels of education. An alternative means of measuring convergence, which models changes over birth cohorts in relative odds ratios of attaining various levels of education, yield substantively similar results (not presented here).

Figures 1(a)–(d) shows trends in the proportions of various cohorts that have at least 1, 9, 12, and 13 years of schooling, respectively. The eight population subgroups examined are Muslims, Christians, Jews of Asian ethnicity, and Jews of European ethnicity, with men and women shown separately. The figures reveal dramatically different stories about changes in schooling patterns at different levels of education.

Trends in proportions with any formal schooling

Figure 1(a) presents the proportions of subgroups, defined by sex and ethno-religious group, who have studied at least 1 year, from the 1920–24 birth cohorts to the 1975–79 birth cohorts. What jumps out from the figure are the very large differences by ethnicity, religion, and sex in entrance into primary education among the earliest cohorts examined, and the clear convergence to nearly universal levels of entrance into primary education by the 1960s cohorts. The 1920s cohorts reveal wide disparities: extremely low levels of any education among Muslim women; intermediate levels among Jewish women of Asian origin (first generation in Israel); higher levels among Muslim men, Jewish men of Asian ethnicity, and Christian women; and nearly universal entrance to primary school among Christian men, and Jewish men and women of European ethnicity. Fewer than 10 per cent of Muslim girls born in the 1920s had any formal schooling whatsoever, while over 90 per cent of

Christian boys attended at least some primary school, as did nearly 100 per cent of Jewish boys and girls of European descent. The largest differences between the sexes in the earliest birth cohorts were among Muslims, followed by Jews of Asian origin, with Christian and Jewish European groups exhibiting the smallest differences. Some differences by ethnicity and sex remained substantial until the 1950s birth cohorts, which were the first cohorts to be born after the passage of the Free Education Bill of 1949. In summary, Figure 1(a) tells a dramatic story of convergence in entrance to primary school for all ethnic groups and both sexes. This trend towards convergence begins in the 1930s cohorts, who were born during the Mandate period, and is essentially complete by the 1960s cohorts.

Trends in proportions with at least 9 years of school

We now turn to an examination of trends in the proportions with at least 9 years of formal education. Nine years of schooling corresponds approximately to entrance into high school in the Arab sector, where primary school generally runs from grades one to eight. Among Jews, some high schools begin at the tenth grade, with seventh, eighth, and ninth graders studying in intermediate schools, but for most cohorts examined here, intermediate schools were not yet widely available (www.education.gov.il/moe/english/facts.htm). Figure 1(b) differs greatly from Figure 1(a). While Figure 1(a) shows convergence following initially large differences between the sexes and among ethnic groups in entrance into primary education, Figure 1(b) demonstrates a pattern of differences which are substantial among the earliest birth cohorts, increase over consecutive birth cohorts, and then begin narrowing with the 1960s cohorts.

Overall, the proportions of those with at least some high-school education have increased dramatically for all population subgroups. The law providing for free secondary education, passed in 1978, may have been helpful in the spread of post-primary education, but the expansion in high-school entrance began much earlier—among the cohorts of the 1950s, and even among the most disadvantaged ethnic–sex groups (Friedlander et al. 2002a). In terms of differences between the sexes, Christian and Jewish women have equalled and even overtaken their male counterparts in the proportions

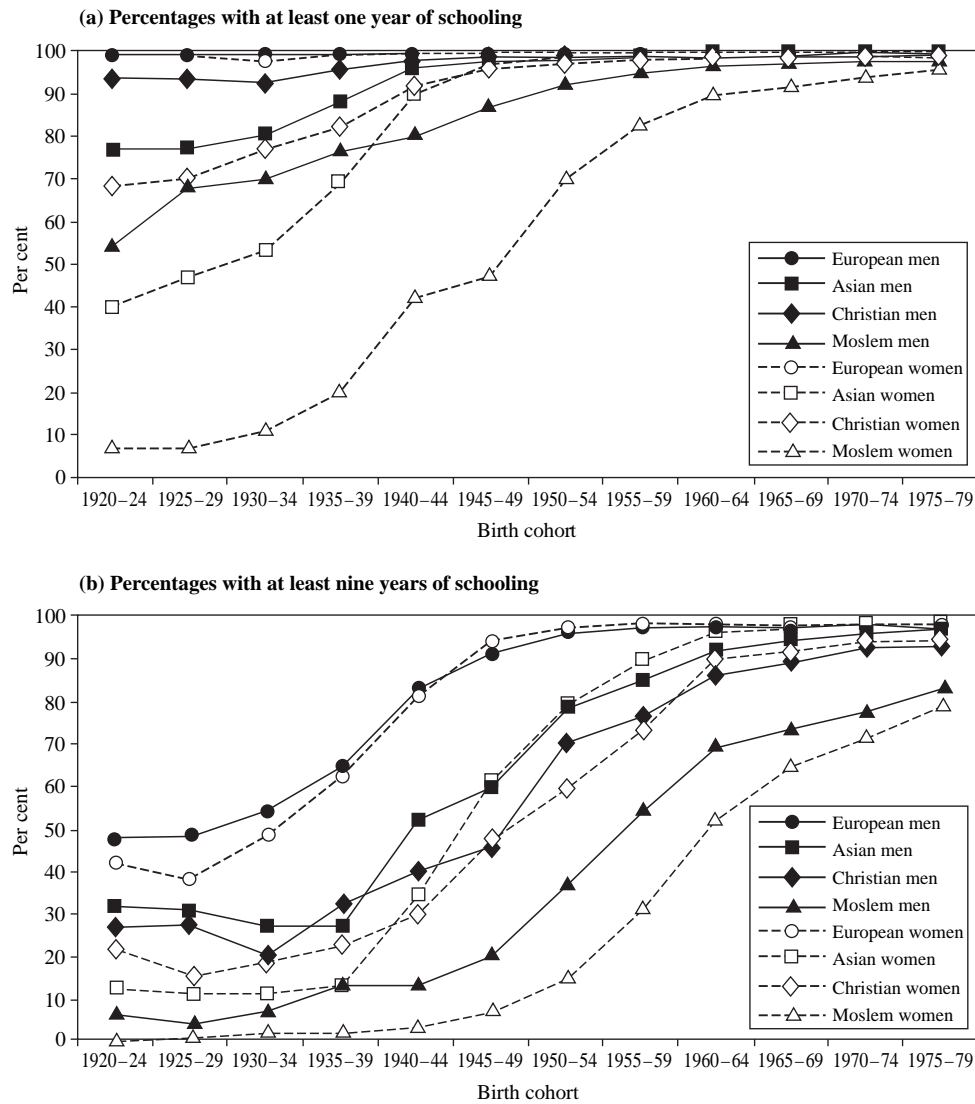


Figure 1 Percentages of birth cohorts with different levels of schooling by ethno-religious group and sex, Israel c.1920–79: (a) percentages with at least 1 year of schooling; (b) percentages with at least 9 years of schooling; (c) percentages with at least 12 years of schooling; (d) percentages with at least 13 years of schooling

Note: European and Asian groups are Jewish immigrants to Israel for cohorts born before 1945. European and Asian groups are Jewish second-generation Israelis for cohorts born during or after 1945. Arab groups exclude those persons who reside in East Jerusalem. See text for details

Source: Israeli census files for 1961, 1972, 1983, and 1995

entering high school. Among Muslims, differences in these proportions between the sexes steadily increased through the 1950s birth cohorts, but have tapered off very significantly since then.

While differences in educational career in the latest cohorts examined are smaller than those among the earliest, we note that about 20 per cent of Muslims in the cohort of 1975–79 did not enter high school compared with about 4–8 per cent among all other groups. This is a crucial disparity because it places the Muslim group far behind all others in entering high school, which has implications for attainments at higher educational levels.

Trends in proportions with at least 12 years of schooling

Figure 1(c) presents levels and trends in the proportions of birth cohorts with at least 12 years of formal education. This corresponds approximately with the proportions that have completed high school. As can be seen, among Jews and Christian Arabs, sisters have surpassed their brothers in terms of high-school completion, and even among Muslims, sisters have overtaken their brothers in the last cohort examined.

In terms of ethno-religious differences in high-school completion, Figure 1(c) reveals overall divergence rather than convergence over birth cohorts

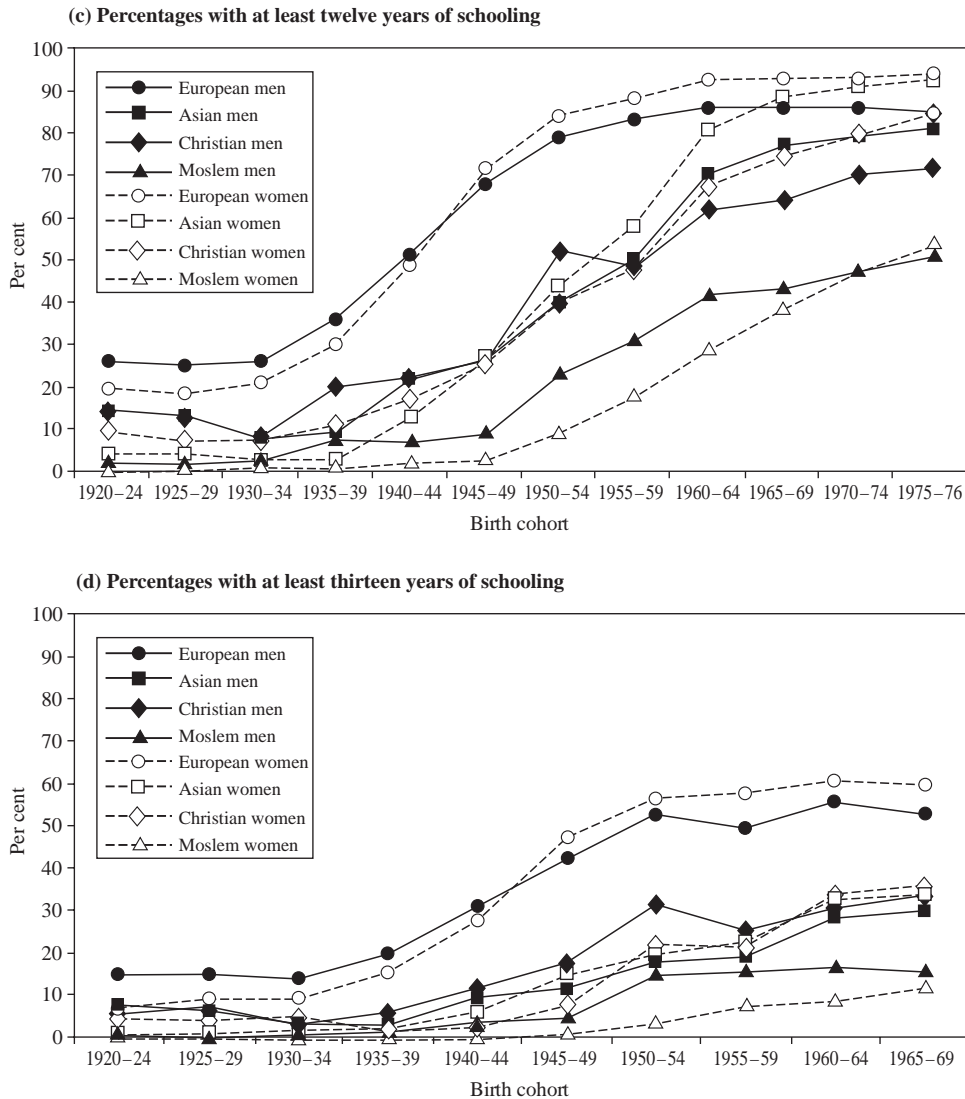


Figure 1 (Continued)

between Muslims and all other groups. The pattern differs from that presented in Figures 1(a) and (b). While no group enjoyed high-school completion rates of more than about 25 per cent among the earliest birth cohorts examined, among the latest cohorts, Jewish women were experiencing completion rates of over 90 per cent, while completion rates among Muslim men and women were still at just over 50 per cent. Thus, significant increases in the proportions of every population subgroup that has completed high school have been accompanied by a substantial widening of differences by ethnicity in these same proportions.

The increasing difference in high-school completion rates between Muslim Arabs and Jews of Asian origin, especially since the mid-1950s, is particularly noteworthy. While very early cohorts of Asian men and women have very low levels of high-school completion (albeit slightly higher than those of

Muslims), the huge progress in terms of high-school completion among this group of Jews has greatly overshadowed the corresponding improvement among Muslims. This increasing disparity in high-school completion rates can be traced to a widening difference in high-school drop-out rates between the two groups since the mid-1950s (not presented here). Thus, despite a reduction since the 1950s cohorts in the ethno-religious differences in high-school entrance rates (Figure 1(b)), disparities in the proportions of a cohort who complete high school have increased (Friedlander et al. 2002a).

Trends in proportions with at least 13 years of schooling

Figure 1(d) presents the proportions of birth cohorts with at least 13 years of schooling. This proportion

corresponds approximately with the percentage of birth cohorts who have some post-secondary education. Figure 1(d) presents a picture that is essentially the reverse image of Figure 1(a)—that is, a picture of widening differences by ethnicity. Levels of post-secondary education remain very low among the most disadvantaged groups—Muslim men and women. In contrast, the proportions of birth cohorts with some post-secondary education have risen from close to zero to more than 30 per cent among Christian Arab and Jewish men and women of Asian ethnicity, although levels essentially stagnated among Christian Arab men born in the 1950s and 1960s. Jews of European ethnicity have much higher levels than all other groups. Again, Christian Arab and Jewish women have higher rates than their male counterparts in having some post-secondary study, and differences between the sexes among Muslims are small in the latest cohort examined. The lack of improvement, since the birth cohorts of the early 1950s, in proportions pursuing post-secondary study among Muslim Arab men is striking. Stagnation in the proportions for Arab men may be due to very poor and deteriorating labour-market opportunities for educated Arab men, and the consequent low rates of return on education (Lewin-Epstein and Semyonov 1993; Al-Haj 1995; Angrist 1995).

Summary of findings about trends in ethno-religious disparities in educational attainment

In summary, Figures 1(a) and (b) demonstrates that primary education has become universal and entrance into secondary school has become very widespread for all ethno-religious groups, although an important difference in rates of entry into secondary school remains between Muslims and all other groups. In contrast, Figures 1(d) and (c) present a picture of increasing differences between ethnic groups at the levels of secondary school completion and entrance into post-secondary education, with absolute stagnation in post-secondary study among Arab men of both religions. Thus, over time, substantial differences between ethnic groups have narrowed at the lower levels of schooling, but have increased at higher levels.

These findings are consistent with what would be expected from our review of historical developments in the educational and socio-economic arenas. On the one hand, increased opportunities for Arab minorities in accessibility to the lower educational

levels contributed to nearly universal primary education and widespread entrance into secondary education, while on the other hand, limited socio-economic opportunities together with inequitable resource allocation worked against Arab minorities at more advanced educational stages. The findings are also consistent with previous empirical research, from a variety of developed societies, which suggests that only when expansion at lower educational levels results in widespread or universal attainment do social background factors become insignificant predictors of attainment at those levels (e.g., Blossfeld and Shavit 1993; Mare 1993; Raftery and Hout 1993; Lucas 2001). It appears from a comparison of Jews and Arabs in Israel that the 'threshold of social exclusion' (Shavit 1990, p. 123) has shifted from primary and some secondary education to high-school completion and post-secondary educational levels.

Multivariate analyses of ethnic differences in educational attainment among Arabs and Jews

Descriptive statistics

We now turn to an examination of the determinants of educational attainment, including social, economic, demographic, and community-level factors in childhood. Analyses presented here are based on the linked 1983–95 census file, which was also merged with community-level variables, as described above. Much research in many societies has pointed to the importance of the socio-economic status of the family and neighbourhood effects as important determinants of children's educational attainment (e.g., Hauser and Featherman 1976; Blake 1989; López Turley 2003). This research suggests strongly that ethno-religious differences in parental and familial socio-economic status are potentially important factors in understanding ethno-religious differences in status. In addition, we attempt to quantify the impact of educational resources on ethno-religious differences.

We identify a variety of factors hypothesized to be associated with educational attainment among respondents: mother's education, father's education, father's occupation, number of children in the respondent's family of origin, socio-economic status of the neighbourhood of the respondent's household of origin, average class size in primary schools located in the respondent's city or town of residence in years past, and availability of post-primary

institutions of learning in the respondent's city or town of residence in the past.

Table 2 details the definitions of the explanatory variables and presents descriptive statistics for outcome and explanatory variables for groups in the linked sample, defined by ethnicity, religion, and sex,

for the cohort born during the period 1960–69. This cohort forms the basis of our cross-sectional analysis for two main reasons: (i) the cohort is old enough in 1995 for it to be reasonably assumed that most members have completed their educational career at the time of the census; and (ii) the success rate of the

Table 2 Descriptive statistics for a study of educational stratification by ethnic group and sex in Israel, cohort born 1960–69

	Men				Women			
	Jews of European ancestry	Jews of Asian ethnicity	Christian Arabs	Muslim Arabs	Jews of European ancestry	Jews of Asian ethnicity	Christian Arabs	Muslim Arabs
Ever studied in high school (per cent of the cohort)	99	94	84	65	99	97	88	60
High school diploma (per cent of the cohort who completed high school)	96	85	72	48	98	93	72	49
High school drop-out (per cent of those who ever studied in high school who fail to complete high school)	3	10	14	26	1	4	18	18
Matriculation diploma (per cent of the cohort who hold a matriculation diploma or higher)	76	47	50	30	82	59	62	34
Ever studied in post-secondary or academic institution (per cent of the cohort)	65	35	36	18	66	33	31	16
Mother's education (mean years in 1983)	11.1	6.7	6.4	1.9	11.2	6.7	6.6	2.2
Father's education (mean years in 1983)	11.2	7.9	7.5	5.1	11.5	7.9	7.5	5.3
Father's occupation (per cent in professional, managerial, scientific, or technical occupations in 1983)	29	10	11	4	32	10	8	5
Family size (number of children ever born to respondent's mother, by 1983)	2.9	4.6	6.4	8.7	2.9	4.7	6.4	9.0
Neighbourhood SES index¹ (mean in 1983)	0.64	0.13	-1.2	-1.7	0.65	0.15	-1.2	-1.7
Primary school class size (mean number of students as of 1985–86 in respondent's locality of residence in 1983)	27.6	27.3	31.7	32.3	27.8	27.3	31.6	32.2
No high school in locality (per cent who, in 1983, lived in a locality with no high school)	1	2	1	3	0	1	5	3
Academic track (per cent who studied in the academic track, among those who ever studied in high school)	50	27	75	68	72	47	87	83
Number of observations	793	852	159	808	697	816	154	686

¹The range of index values was approximately between -2 and +2 (Ben-Tuvia 1986).

Note: Numbers in the table do not replicate those in Figures 1(b)–1(d) precisely, because different data-sets are used and there are slight differences in groups included and in variable definitions.

Source: Linked 1983–95 micro census sample, merged with macro-level data-sets. See text for details.

linkage procedure appears satisfactory for this cohort (see Friedlander et al. 2002a). Where possible, comparisons with younger cohorts will be referenced in the text.

The first rows of Table 2 report ethnic differences found in educational attainment. These are broadly consistent with Figures 1(b)–(d) above. The table also reports high-school drop-out rates as well as the proportions of the birth cohort that have earned a matriculation diploma. We note that attainment of the matriculation diploma is not automatic on completion of high-school studies; rather, a matriculation diploma is earned only when pass grades are obtained at national standardized examinations in a number of subjects including mathematics and English. The table suggests that high-school drop-out rates are significantly higher among Arab groups than among Jewish groups, and that there are also clear disparities in the proportions earning the matriculation diploma, with Jews of European origin in the lead, Christian Arabs and Jews of Asian origin lagging behind, and Muslims in the rear.

The remainder of Table 2 points to striking differences across ethno-religious groups in background characteristics such as parents' educational attainment, socio-economic status of respondents' neighbourhoods, and primary school class size. Across ethnic groups, Jews of European ethnicity almost always have large advantages over other groups, and Muslim Arabs are the most disadvan-

taged by far. Intermediate groups that are quite similar to each other in characteristics are the Christian Arabs and Jews of Asian origin. Corresponding statistics computed for the cohort 1970–76 (not presented here) show parallel differences in characteristics across groups.

Jews generally have an advantage in their background characteristics in comparison with their Arab, particularly Muslim counterparts, with one possible exception—the proportion of high-schoolers who studied in the academic rather than vocational track in high school. While there is probably a differential selection effect (those chosen or choosing to enrol in the academic track among Jews are probably more motivated and more successful in primary school than are their Arab counterparts), we still expect that, other things being equal, those enrolled in the academic track will have higher rates of matriculation and post-secondary schooling. We will control for this factor when analysing ethnic and religious differentials in educational attainment.

Multivariate analyses of entrance into and completion of high school

As primary school attendance is nearly universal among all population subgroups in the 1960–69 cohort, our analysis begins with the stage of enrolment in high school. Table 3 presents odds ratios

Table 3 Odds ratios of having had some high school education, by sex, religion, ethnicity, and various control variables, Israel, cohort born 1960–69

Explanatory variables	Men				Women			
	1	2	3	4	5	6	7	8
Muslim Arab	0.12*	0.23*	0.30*	0.26*	0.03*	0.07*	0.31*	0.40*
Christian Arab	0.34*	0.36*	0.44*	0.38*	0.18*	0.17*	0.59	0.77
Jewish of European ethnicity ¹	5.21*	1.88+	1.79	1.75	1.30	0.44*	0.29*	0.33*
Jewish of Asian ethnicity (reference)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mother's education		1.07*	1.07*	1.07*		1.13*	1.11*	1.11*
Father's education		1.15*	1.15*	1.15*		1.11*	1.08*	1.08*
Father's occupation		0.99	0.98	0.95		0.87	0.84	0.80
Family size		0.94*	0.94*	0.94*		0.96*	0.97	0.95*
Neighbourhood SES index			1.19	1.25			2.89*	2.53*
Average primary class size				1.04				0.93*
No high school in locality				1.57				0.41*
–2 Log likelihood	1,745.6	1,612.7	1,611.2	1,607.6	1,582.1	1,479.4	1,433.3	1,421.1
N	2,612	2,612	2,612	2,612	2,353	2,353	2,353	2,353

¹Note that because Jews of both European and Asian ethnicity have nearly 100 per cent exposure to high school, these results should be interpreted with caution.

* $p \leq 0.05$; + $p \leq 0.10$.

Source: As for Table 2.

from a variety of logistic regressions that analyse the log odds of having had some high-school education. Men and women are examined separately, since patterns of association are shown to differ between the two sexes. Our analytic strategy is to introduce additional explanatory factors into successive models in order to evaluate the effects of inclusion of these variables on the size and direction of estimated coefficients for ethno-religious dummy variables.

In models (1) and (5), ethnic and religious dummy variables capture unadjusted differences in the odds of ever attending high school among men and women, respectively, where Jews of Asian ethnicity comprise the reference group. Not surprisingly (see Table 2), Arabs, particularly Muslim Arabs, have much lower odds of ever attending high school than do the Jews of Asian ethnicity. These differences are even larger among women than among men. (We note that because the probabilities of ever attending high school are so high among all groups of Jews, the interpretation of logistic regression results that compare Jews of European origin to Jews of Asian origin may be somewhat misleading; differences in odds become very sensitive to small absolute differences in probabilities when probabilities are near to 100 per cent.)

In models (2) and (6), we introduce some control factors that are related to the socio-economic and demographic circumstances of respondents' families in 1983 (when respondents were aged 13–24). We find that higher levels of mother's and father's education are associated with increased odds of having entered high school, while having had a larger number of siblings in the family is associated with reduced odds. These findings are consistent with a large body of research on the socio-economic determinants of educational attainment (e.g., Blake 1989). Father's occupational status is not found to have a statistically significant effect on the odds of entering high school, beyond its statistical association with father's education. Differences in mother's and father's education as well as family size across the ethnic and religious subgroups go part of the way towards accounting for ethno-religious disparities in the odds of high-school enrolment, as evidenced by the substantial and significant increase in the odds ratio associated with the Muslim dummy variable between models (1) and (2) and between models (5) and (6). However, even controlling for these characteristics, Muslim Arabs (both men and women) fare much worse than Jews. There is little change in

the odds ratio associated with the dummy variable representing Christian Arab ethnicity, as this group does not differ dramatically from Asian Jews (the reference group) in terms of most characteristics considered here.

Models (3) and (7) introduce the measure of socio-economic status of the respondents' neighbourhoods in 1983. Among women, this variable has important explanatory power, while for men, the effect is insignificant. The disadvantage in high-school enrolment of Christian Arab women over Jews of Asian origin is completely accounted for, once neighbourhood characteristics are included, but marked disparities still exist between both groups of Arab men and Jews, as well as between Muslim Arab women and Jewish women of Asian origin. Even models (4) and (8), which include measures of class size and the availability of a high school in the locality of the respondent, leave large unexplained differentials, particularly between Muslims and Jews. It is interesting to note that once again, in models (4) and (8) additional explanatory variables (class size and lack of a high school in the locality) offer explanatory power only in the case of women. Al-Haj (1995) has suggested that lack of access to institutions of learning is particularly problematic for Arab girls, whose parents may be less willing to allow them to travel distances for study.

In summary, we have shown that the large disadvantage of Muslim Arabs, both men and women, in the probability of entry to and completion of high school, can only be partially explained by differences in the social status of their parents and the characteristics of their neighbourhoods. Muslim disadvantage in class size and access to institutions of higher learning explain a little more of the difference among girls, but differences remain that are still substantial and significant. Corresponding analyses of the odds of completing high school (not presented here) reveal similar patterns. In addition, similar conclusions are reached about high-school entry and completion for the cohort of 1970–76, and about high-school entry for the cohort of 1977–79 (results not reported here). Models that allowed for varying effects of explanatory factors across ethno-religious groups (interactions between ethno-religious group and explanatory variables) did not substantively affect the conclusions we reached. For contrasting results, see Shavit and Pierce (1991).

Multivariate analyses of high-school completion, matriculation, and entrance into post-secondary study, conditional on entrance into high school

Given the large and unexplained ethno-religious differences in the proportions entering high school noted above, we are prompted to investigate the ethno-religious differences in the odds of completing high school, earning a matriculation diploma, and going on to post-secondary studies, *conditional on entry into high school*. If these differences, conditional on high-school entry, are small, then most of the ethno-religious inequality in the 1960–69 cohort can be understood as stemming from (in a proximate-determinants sense) the shortfall among certain groups in high-school entry. This question is examined below. Owing to space considerations, we present only the results of the odds of post-secondary study, conditional on high-school entry, but allude to other analyses in the text.

Models not presented here indicate that, while the unadjusted ethnic shortfalls in high-school completion among Muslim and Christian Arab high-schoolers are smaller in size than the corresponding shortfalls in high-school completion among all members of the birth cohort, the unadjusted ethnic differences in the former are still substantial and statistically significant, for both women and men. In other words, high-school drop-out rates for Muslim and Christian women and men are significantly higher than those of Jews of Asian origin, as well as Jews of European origin. Among men, the higher drop-out rates for Muslims and Christians are entirely accounted for by socio-economic and demographic characteristics of the families of origin. The same, however, does not hold for Muslim and Christian Arab women, who suffer greater high-school drop-out rates, even controlling for all the explanatory factors available. Some variables missing from our analyses, particularly variables reflecting factors connected with discriminatory action, are likely to contribute to the unexplained difference. Another possible explanation for the unexplained difference among women is that Arab women had more alternatives (e.g., early marriage) to continuing education than Arab men. Period measures of median age at first marriage for Muslim women in Israel were 19.4 years in 1980 and 19.8 years in 1985. The median age for Muslim men was about 4–5 years older at each point (Israel Central Bureau of Statistics 2002).

Table 4 presents results from logistic regression analyses of the odds of some post-secondary study,

among those respondents who reported that they had ever studied in high school. The construction of the first four models for men and women in Table 4 parallels that of models in Table 3 discussed above. In addition, Table 4 includes additional models (5) and (10) that incorporate another explanatory factor—whether the respondent was enrolled in the academic track in high school (the reference category is the vocational track).

The unadjusted odds ratios in models (1) and (6) in Table 4 show the advantages of Jews of European and Asian ancestry over Muslim Arabs, although in the case of Jews of Asian ancestry, the advantage is not extremely large. Christian Arabs are roughly level with Jews of Asian ancestry in the unadjusted models. Once adjustment is made for explanatory variables in models (2)–(4) and (7)–(9), the advantage of Jews over Muslims is largely accounted for; in fact, in most of these models, adjustment for family background, neighbourhood socio-economic status, and educational opportunities reverses the direction of the ethno-religious differentials. However, once track is accounted for in models (5) and (10), the seeming ‘advantage’ of Arab minority groups relative to Jews is greatly reduced (Shavit 1990). The importance of controlling for high-school track becomes clear as enrolment in the academic track of high school is significantly positively associated with greater odds of enrolling in post-secondary studies, as has been shown in much previous research (e.g., Friedlander et al. 2002a). Similar substantive results are found in models of matriculation, conditional on high-school entrance (not presented).

Summary and conclusions*Trends in differences between the sexes and among ethno-religious groups in educational attainment*

We report trends in ethno-religious differences in educational attainment that differ sharply according to the level of schooling considered. While we find convergence across ethno-religious groups in educational attainment at the lower levels of schooling (entrance into primary school and entrance into high school), we document divergence at higher levels of schooling (high-school completion and post-secondary schooling). Thus, as the general level of education in Israeli society has increased over birth cohorts, and primary school and entrance to secondary school have become widespread among all

Table 4 Odds ratios of having some post-secondary study, by sex, religion, ethnicity, and various control variables, conditional on some attendance at high school, Israel, cohort born 1960–69

Explanatory variables	Men					Women				
	1	2	3	4	5	6	7	8	9	10
Muslim Arab	0.66*	1.69*	2.69*	2.39*	1.49	0.69*	1.51*	2.69*	3.46*	1.77*
Christian Arab	1.22	1.54*	2.27*	2.05*	1.31	0.99	1.08	1.80*	2.20*	1.19
Jewish of European ethnicity	3.03*	1.49*	1.43*	1.43*	1.35*	3.97*	1.86*	1.75*	1.77*	1.55
Jewish of Asian ethnicity	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Mother's education		1.07*	1.06*	1.06*	1.05*		1.06*	1.06*	1.06*	1.04*
Father's education		1.09*	1.08*	1.08*	1.07*		1.12*	1.12*	1.12*	1.12*
Father's occupation		1.57*	1.54*	1.55*	1.49*		1.92*	1.86*	1.84*	1.75*
Family size		0.90*	0.91*	0.91*	0.90*		0.94*	0.96	0.96	0.96
Neighbourhood SES index			1.35*	1.34*	1.28*			1.48*	1.52*	1.40*
Average primary class size				1.02	1.03+				0.96*	0.97
No high school in locality				0.59	0.58				1.09	1.20
Academic track					2.10*					3.49*
–2 Log likelihood	2,890.0	2,669.6	2,657.9	2,654.6	2,603.4	2,741.0	2,490.7	2,471.9	2,465.8	2,343.4
N	2,174	2,174	2,174	2,174	2,174	1,978	1,978	1,978	1,978	1,978

* $p \leq 0.05$; + $p \leq 0.10$.

Note: Of respondents who had ever studied in high school, there was a small group who did not provide information on the type of tracking in which they were enrolled (between 1 and 3 per cent for all ethnicity–sex groups). These respondents were eliminated from the analyses presented in this table.

Source: As for Table 2.

groups, ethno-religious inequality has taken hold at more selective levels of schooling. It is particularly revealing that there has been a complete lack of improvement in proportions pursuing post-secondary study among Arab men, both Christian and Muslim, over about the last 20 years of birth cohorts. Post-secondary study among Arab men has stagnated in absolute terms, and has declined relative to post-secondary study among the Jewish group of Asian origin.

Changes over time in disparities between the sexes in educational attainment are also noteworthy. There has been a significant narrowing or elimination of differences between the sexes at all levels of schooling and among all ethno-religious groups over successive birth cohorts. In some important instances, women have overtaken their male counterparts in educational attainment. The case of Muslim women, who have experienced more rapid improvements in educational attainment than Muslim men

in Israel, is particularly striking, because the Muslim Arab group has historically experienced large disparities in education between the sexes. Moreover, the relative gains of women over men among Muslim Arabs in Israel appear to exceed those in most of the Arab world, where the male advantage has been declining only slowly over the past few decades (Wils and Goujon 1998).

Factors related to ethno-religious differences among 1960s birth cohorts

Our analyses indicate that in the 1960s birth cohorts, Arabs, particularly Muslims, appear to suffer lower educational attainments at the secondary level than expected, even given their lower social status. In other words, even under the counterfactual scenario that Arabs and Jews had similar family backgrounds and lived in similar neighbourhoods, Muslims would

experience shortfalls in educational attainment at the secondary level. Our attempts at quantifying the possible effects of discrimination on educational attainment in multivariate analyses do not provide strong evidence that differential allocation of resources among these cohorts can account for a substantial part of the ethno-religious differences in education. However, the variables available for this purpose—primary-school class size and presence of high school in the locality—are admittedly rather crude. Referring back to Table 1, which documents a history of consistently unfair allocation of educational resources between the Jewish and Arab sectors, we note that it is likely that better indicators of resources at the level of locality—for example, teachers' services per pupil—beyond those employed in this study, would have gone further in accounting for the remaining, unexplained ethno-religious disparities. Although care in the interpretation of our findings is necessary because of missing and imperfect variables, the findings deserve further attention and scrutiny by researchers as well as policy-makers because they suggest systematic discrimination against Muslims, specifically at the high-school level.

Unfortunately, it is almost impossible to separate out analytically and to measure directly the educational consequences of discriminatory policies pursued since Israel's independence and of the historical circumstances that prevailed before the State of Israel was established. Nevertheless, we have presented a variety of evidence about ethno-religious disparities in educational attainments among pre-State birth cohorts born during the Mandate period, as well as some information on the history of the unfair allocation of educational resources between the Arab and Jewish sectors over the last 30 years or so. Together, these two sets of evidence suggest some of the underlying reasons for poor educational attainment, particularly among Muslim Arabs, in the last birth cohorts examined—the combined consequences of discriminatory policies since 1948, and historical disparities in socio-economic status in pre-State cohorts. Other researchers have suggested the importance of explanations that see Arab culture as traditionally less encouraging of the procurement of education, particularly among girls. While we cannot test this hypothesis directly with the data at hand, these suggestions are likely to have only limited explanatory power, given the remarkable improvement in the educational status of Muslim girls and women.

Comparisons across ethno-religious groups

There are a number of specific comparisons to make between ethno-religious groups. Comparisons between Muslims and Jews of Asian origin show that while both groups have enjoyed greater educational attainment over successive birth cohorts, gains have been smaller among Muslims, particularly at the higher levels of education. Changes in differences in educational attainment between the two groups are particularly enlightening because both groups started out with fairly low levels of educational attainment in the more distant past, although the levels were initially higher among the Jewish group. As mentioned above, increasing differences between Muslim and Jews in rates of dropping out from high school have slowed convergence across successive cohorts in high-school completion and post-secondary study, since educational attainment at the higher levels is a cumulative function of transition probabilities at lower levels.

Comparing Christian Arabs with Jews from the Middle East, we note that Christians have educational success that is roughly commensurate with that of these Jewish counterparts at the post-secondary level. This finding is consistent with their similar characteristics in terms of parental education. An unanswered question is why discrimination appears to have taken a greater toll on Muslim Arabs than on Christian Arab groups. It is likely that the longer tradition of quality education among the latter group has helped to buffer Christians from the disadvantages imposed by Israeli society since 1948.

When comparing Muslims with Christians in the 1960–69 birth cohort, we note the much higher educational attainments of the latter. This Christian advantage over Muslims can be largely accounted for by differences in family characteristics, primarily parental education. Unexplained differences between Christians and Muslims are likely to be the outcome of historical differences in educational attainment. The Christian advantage, among both men and women, was apparent from the earliest birth cohorts examined, those from the 1920s, and is well established in the literature.

Comparing the outcomes for Jews of European origin with outcomes for all other groups, we also note that this Jewish group has always enjoyed the highest status in educational attainment, and its advantage persists at the post-secondary level among the latest cohorts examined. Thus, both *within* Arab and Jewish groups, as well as *between* the two major groups, important differentials persist

in educational attainment. This research has documented and highlighted the factors associated with the multiple dimensions of continuing educational stratification in Israel.

Notes

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