Ethnic Gaps in Higher Education and Earnings Among Second and Third Generation Jews in Israel*

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Abstract

This paper compares ethnic gaps in socioeconomic characteristics between second and third generation Jewish immigrants in Israel. Using administrative data for over one million men and women, 25-43 years old in 2018, the results suggest that the well-documented educational and earnings advantages of Ashkenazim (Jews of European/American origin) over Mizrahim (Jews of Asian/African origin) in the second generation have not narrowed. Indeed, in the case of education, they are even greater in the third generation, especially among men. In both generations, however, ethnic gaps in rates of obtaining an academic degree are smaller among younger birth cohorts, suggesting that the Mizrahi-Ashkenazi gap may have narrowed over time, though not between the second and third generation. With respect to earnings, in both generations Ashkenazim earn more than Mizrahim; the unadjusted gap increases with age, reaching nearly 20% among men aged 43, the oldest age analyzed in this paper. However, this unadjusted earnings advantage for Ashkenazim is entirely due to their advantage in education. Once higher education is controlled for, the earnings of Mizrahim are not lower, and in some cases, are even slightly higher than that of demographically comparable Ashkenazim. Finally, in both generations, those of mixed ethnicity are more similar to Ashkenazim than to Mizrahim with respect to their education and earnings.

Keywords: Third-generation immigrants, educational gaps, earnings gaps, ethnicity, Israel, Second Generation

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Introduction

There are persistent socioeconomic gaps in Israel between Ashkenazim (Jews whose origin is from Europe or America), who have achieved high levels of education and earnings, and their Mizrahi counterparts (Jews whose origin is from Asia or Africa), who have never caught up with them. Numerous studies have documented the ethnic gaps and/or provided macro sociological explanations for their persistence among the second generation (i.e., Israeli-born to foreign-born parents), increasingly recognizing the institutional discrimination that new Mizrahi immigrants and their offspring faced during Israel's first decades (see, for example, Peres 1971, 1977; Smooha 1978; Smooha & Kraus 1985; Shohat 1988; Swirski 1999; Khazoom 2003; Shenhav 2006; Perlmann & Elmelech 2012; Lamont et al. 2016; Mizrachi 2016). For lack of data, however, less is known about the socioeconomic gaps between Mizrahim and Ashkenazim in the third generation, namely, among Israeli-born Jews whose parents were also Israeli-born, but whose grandparents were born abroad. This is unfortunate, because third generation immigrants already comprise a substantial portion of Israeli-born Jewish adults.[1] Fortunately, the administrative data available in the Israeli National Insurance Institute (NII) enable us to identify the ethnic origin of third generation Israelis. We utilize these data to describe and analyze the educational levels and earnings of over 1.162 million Israeli Jews who were 25-43 years old in 2018, according to their ethnic origin and generation. While the main contribution of the paper is the use of administrative data for descriptive purposes, we will also present basic earnings regressions aimed at estimating the extent to which education explains earnings gaps between the two ethnic groups.

Israeli Migration History and the Rise of Third Generation Jewish Israelis

In 1918, when the British completed the conquest of Palestine, its Jewish population was estimated to be about 60,000. By May 15, 1948, when Israel was established, the number of Jews increased more than tenfold to around 650,000, over 80% of them Ashkenazim. Most of the Jewish population growth during this 30-year period was due to immigration, mostly from Europe (ICBS 1951).

[1] Palestinian-Arab Israelis are not included in this paper because the vast majority of the 1.6 million Palestinian citizens of Israel are native-born whose parents and grandparents were born in Israel/Palestine.

During statehood, immigration continued to be a major source of Jewish population growth, shaping the ethnic composition of Israel (Cohen 2002a). In the three-and-a-half years after its establishment, Israel brought nearly 700,000 Jewish immigrants to settle in the country, in what is known as the "mass migration." These Jewish immigrants not only transformed the national composition of the population of Israel but they also replaced the same number of Palestinians who were forced out of Israel during the 1948 war. In doing so, they changed the ethnic composition of the Jewish population of the new state. The proportion of Mizrahim among Israel's Jews increased from less than 20% in 1948 (Goldscheider 1996: 30) to about 38% in 1955 (Peres 1977: 45). In the 15 years between 1952 and the end of 1967, an additional 600,000 Jewish immigrants arrived. This migration wave accentuated the ethnic transformation of the Jewish State, as immigrants from Asia and especially North Africa comprised about 60% of the newcomers. Since Mizrahi immigrants in the 1950s and 1960s were younger and had a higher fertility rate than Ashkenazim, the proportion of Mizrahim in the Jewish population grew, reaching parity with Ashkenazim in 1968, where each group comprised about 47% of the Jewish population. The remaining 6% of Jews in that year were third generation immigrants whose ethnicity is unknown (Cohen 2002a).

The Israeli victory in the 1967 war and its aftermath attracted over 200,000 Ashkenazi Jewish immigrants from the developed countries in America and Western Europe as well as most of the Mizrahim who remained in Arab countries in the Middle East. Cold War politics enabled about 160,000 Soviet Jews, most of them Ashkenazim, to immigrate to Israel in the 1970s and 1980s. The collapse of the former Soviet Union brought an additional half a million Soviet Jews to Israel between 1989 and 1993[2] (Cohen 2002a) and an additional half a million since 1994. Over four-fifths of the immigrants arriving during 1968-1993 were Ashkenazim, thereby reversing the decline in the share of Ashkenazim in the population. By 1993 Ashkenazim and Mizrahim comprised about 40% and 36% of the Jewish population of all ages, respectively, while the share of third generation Jews, whose ethnicity is unknown, reached 24% (Cohen 2002a). By 2019, according to the Israeli Central Bureau of Statistics (ICBS 2020), the combined share of all first and second generation Mizrahim and Ashkenazim declined to 52% of the Jewish population, while the remaining 48% were third generation Jews whose ethnicity is unknown.

The ethnicity of third generation Jews is unknown due to the ICBS' method of classifying the population according to what it refers to as their "origin." To determine their origin, Jewish

[2] We refer to 1993 because our study includes those born in Israel no later than that year.

Israelis are classified by the ICBS according to their country of birth or that of their fathers. Possible "origins" do not include Mizrahim or Ashkenazim, but only continents of birth. If, however, both respondents and their fathers were born in Israel, they are assigned an "Israeli origin." This being the case, in official statistics and micro data in the census, third generation Jews are classified as having an "Israeli origin," regardless of their grandparents' country of birth. This procedure results in the elimination of ethnicity from official statistics within two generations, or about fifty years (Cohen 2002a, 2002b; Cohen et al. 2007; Nagar-Ron 2021). Moreover, relying on the country of birth of one parent only (usually the father) dictates a binary ethnic classification, whereas increasing numbers of Israeli-born Jews are of mixed ethnicity (i.e., one of their parents is Ashkenazi and the other Mizrahi). Whether such administrative rulings affect identities or change the role of ethnicity in Israel remains to be seen (Lewin Epstein & Cohen 2019). So far, the available evidence suggests that the role of ethnicity has not diminished in the past fifty years, at least with respect to socioeconomic standing and voting behavior. Gaps in higher education and earnings – arguably the two most important indicators of social standing in contemporary Israel – are no smaller in the second generation than the gaps observed in the first generation (Amir 1987; Nahon 1987). Furthermore, the ethnic gaps within the second generation did not attenuate appreciably during the twentieth century (Mark 1996; Cohen & Haberfeld 1998; Haberfeld & Cohen 2007), though there are indications that gaps in education and earnings started to narrow in the twenty-first century (Dahan 2016).

A handful of studies, based on the merged 1983-1995 census file, have explored the gaps among young members (25-34) of the third and second generations in 1995. They reported a generational decline in ethnic gaps in education beyond high school (Friedlander et al. 2002), but not in the rates of obtaining academic degrees (Cohen et al. 2007) nor in high school matriculation (Dahan et al. 2002). A recent study from the twenty-first century, based on data collected by the European Social Survey in 2015-17, found that the ethnic gaps in higher education are somewhat smaller in the third generation than in the second generation (Cohen, Lewin Epstein & Lazarus 2019). This study, however, was based on a small sample of 775 men and women of both the second and third generation. Consequently, some findings were based on very small numbers – at times less than 50 individuals – of particular groups of Mizrahim, Ashkenazim, and men from mixed Mizrahi/Ashkenazi backgrounds, especially in the third generation.

Evidently, a study based on updated information about nearly the entire population of Israeli-born Jews, when the number of adult third generation Jews is large enough, and covering a wider age range is in order. It will advance our knowledge about the trends in ethnic socioeconomic gaps in Israel across generations. The question of the third generation is not unique

to Israel. In Europe and the US, the third generation is rising fast as well, but because of the lack of data, the trend in socioeconomic gaps by generation is not clear (Waters and Pineau 2015). Hence, the Israeli findings may be suggestive of what to expect in Europe and America.

Data and Variables

We use administrative data from the National Insurance Institute (NII) that we augmented with data from the Israeli population registrar as well as from the Israeli tax authority. The combined data set includes rich demographic and socioeconomic information for all adults, including country of birth for parents and grandparents (from the population registrar), earnings (from the tax authorities) and whether the person is enrolled in a given year in one of Israel's colleges and universities leading to an academic degree (from the NII). These data enabled us to analyze the rates of higher education and earnings among Israeli-born Jews of Mizrahi, Ashkenazi and mixed ethnic origin of the second and third generation, 25-43 years old in 2018 (born between 1975 and 1993).[3] The size of this entire cohort is about 1.328 million persons. We set the upper age limit at 43 because the NII started collecting educational information only in 1995. Hence, there is no information about those attending institutions of higher education before that year. In addition, since members of the third generation are relatively young – their mean age is about three years younger than that of the second generation – including older cohorts would result in comparing older members of the second generation with younger members of the third generation.[4] The younger age threshold is set at 25 because most Jewish Israelis serve in the military, and do not begin their higher education before they are 21 or 22 years old.

[3] Some previous research viewed post-1989 immigrants from the former Soviet Republics as a distinct ethnic category (see, for example, Semyonov, Raijman & Maskileyson 2015; Lewin Epstein & Cohen 2019). This is reasonable when analyzing first and perhaps second generation immigrants because the "Russians" arriving in Israel after 1989 comprise a large and perhaps distinct group in contemporary Israel (Semyonov, Raijman & Maskileyson 2016). Our study, however, focuses on comparing second and third generation adult immigrants in 2018. At that point there were no post-1989 third generation immigrants and very few second generation adult immigrants from the former Soviet Republics. Hence, it was not possible to study "Russians" as a separate ethnic category in this study.

[4] Mizrahim are slightly older than Ashkenazim in the second generation, but younger in the third generation. The mean age for second generation Mizrahim (combined with the 2.5 generation) and Ashkenazim is 35.5 and 34.4, respectively. The respective figures for the third generation are 31.2 and 32.5.

Variables

Ethnic origin: Based on the country of birth of parents and grandparents, we assigned ethnic origin and generation according to the algorithm developed by Cohen et al. (2007) and Cohen et al. (2019). The second generation consists of those born in Israel to immigrant parents. They were classified into three origin groups: Mizrahim, if both parents were Mizrahim (born in Asia or Africa); Ashkenazim, if both parents were Ashkenazim (born in Europe or America); and mixed, if one parent was born in Asia or Africa (Mizrahi), and the other in Europe or America (Ashkenazi). If country of birth was missing for one of the parents, we determined the ethnicity on the basis of one parent only. The 2.5 generation, which we combined in most analyses with the second generation, consists of the offspring of parents, one of whom was Israeli-born and the other an immigrant. In order to assign an ethnic origin to members of the 2.5 generation, we used the grandparents' information to determine the origin of the Israeli-born parent. Here too we identified three groups. If the origin of one parent was Asia or Africa and that of the grandparents (in the case of the parent born in Israel) was also Asia or Africa, we classified the person as Mizrahi. Individuals were classified as Ashkenazim, if the origin of one parent was Europe or America and that of the foreign-born grandparents (in the case of the parent born in Israel) was Europe or America. Finally, we defined those with one Mizrahi and one Ashkenazi parent (or grandparent) as of mixed origin. If the country of birth was missing for one of the parents or grandparents (of the Israeli-born parent), we used the birth country of the parent and/or grandparent(s) for which data were available to determine ethnicity.

The third generation includes respondents whose parents were Israeli-born. We determined their ethnic origin by that of their grandparents. The classification rule that we used in this case was that if at least one grandparent was born in Asia or Africa (Mizrahi) and no grandparent was born in Europe or America (Ashkenazi), the respondent was classified as Mizrahi. If at least one grandparent was born in Europe or America (Ashkenazi) and no grandparent was born in Asia or Africa (Mizrahi), the respondent was classified as Ashkenazi. All other cases (at least one grandparent from each ethnic group) were classified as mixed. If the country of birth for any of the four grandparents was either Israel or missing, we determined ethnicity based on the birth country of the grandparent(s) for which data were available.

The size of this cohort is about 1.328 million persons. We excluded about 165,000 persons from this analysis, mostly due to missing ethnic data among the older age groups in the third generation. Other excluded groups include fourth-plus generation Israelis, and second-generation immigrants from Ethiopia, whose particular origin and immigration history set them apart from

other Mizrahi immigrants. The exclusion of Ethiopians did not affect the results because they represent only a small proportion (1.1%) of the population of second generation immigrants, and there were no third generation Ethiopians in the relevant age group in 2018.

After all exclusions, our study includes 1,162,197 Israeli-born Jews 25-43 years old in 2018, comprising nearly 88% of the population of Israeli-born Jews of this age group (see Appendix). About 43% of them belong to the third generation (both parents were born in Israel and at least one grandparent was born abroad) and 57% are second generation immigrants (including the 2.5 generation) where at least one parent was born abroad. Of the 1.162 million individuals, about 54% are Mizrahim, about a third (34%) are Ashkenazim and the remaining 12% are of mixed ethnicity, although this last figure is most likely an underestimate. A more accurate estimate for the share of those of mixed ethnicity, in the entire cohort of those 25-43 years old, is 15%.[5]

Education: Our measure for having at least a BA degree is attending an institution of higher education for at least three years, which is the normal number of years for obtaining a BA degree in Israel and much of Europe. Enrollment information is collected annually by the NII for all Israelis. We assumed that those 25-27 years old, who were enrolled in an institution of higher education for the first time in 2018 – comprising about 1.77% of the total sample and 9.85% of those 25-27 – would graduate and thus classified them as having a BA degree. The proportions were slightly

[5] For 43% of the cases, mostly among older individuals in the 2.5 and third generations, the population registrar does not have full information on the country of birth for all parents or grandparents. Hence, we assigned ethnicity based on the birth country of the parent and/or grandparent(s) for whom data were available. This approach reduced the proportion of those of mixed ethnicity because the fewer ancestors with full information one has, the less likely he or she will be classified as ethnically mixed. In extreme cases, one cannot be of mixed ethnicity if one's ethnicity is determined by only one parent or grandparent. In order to estimate the share of persons who were ethnically mixed, we assumed that the share of those of mixed ethnicity in the entire cohort was the same as the share of those for whom information on all parents and/or grandparents was available. Using this approach, we determined that about 15.0% of the 1.162 million individuals were of mixed ethnicity, about 3.3 percentage points more than what we observed (11.7%, see Appendix). Consequently, the combined proportions of Mizrahim and Ashkenazim are most likely about 3.3 percentage points less than listed in the Appendix. Comparing the characteristics of those with incomplete ethnic data by age group to those with complete data revealed no appreciable differences between the two groups.

higher among men than women and among Ashkenazim than Mizrahim, but they did not appreciably change the results regarding gaps among the youngest age group in either generation.[6]

On the face of it, our measure of higher education appears to be an overestimate for the proportion of those with at least a BA degree, because it assumes that all those who were enrolled for at least three years graduated, and all those 25-27 years old who were currently studying will eventually graduate. However, the NII does not count graduates who study abroad, or complete their degrees in less than three years. The NII does not record them as being enrolled in institutions of higher education in Israel for at least three years. These two opposing effects appear to offset each other: the overall rate of college or university graduation (as defined above) in the NII data, 41.8%, is about the same as the rates obtained using the ICBS data.[7]

While the overall rate of obtaining academic degrees based on the NII data appears to be accurate, the question is if dropping out of college – the main possible source of error for educational (mis)classification in the NII data – is correlated with ethnicity. The available evidence suggests that the answer is no. The dropout rates of second generation Mizrahim and Ashkenazim were nearly identical (Alon 2015b). Moreover, the proportion of dropouts in the NII sample – measured as being enrolled for less than three years (and not currently enrolled) in an academic institution of higher education – was similar across ethnic groups and generations.[8] Thus, there is no reason to believe that the situation would be different among those dropping out after attending three or more years in an institution of higher education.

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[6] Similarly, we assumed that those 42 or 43 years old, who were enrolled in an institution of higher education in 1995 or in both 1995 and 1996 (before they were 20 years old), also had a BA degree. Since enrollment records are available only from 1995, we can observe only their last one or two years of enrollment in an institution of higher education. Such persons (mostly women) comprise only 0.13% of the total sample and 1.45% of those 42-43 years old. Their inclusion as having a BA degree does not change the results regarding the oldest age group.

[7] There are two measures of academic degrees in the ICBS data, one based on the type of institution from which respondents received their highest degrees, and the second based on the actual degree obtained. In 2018, according to our analysis of the Israeli Social Survey, 43.9% of Israeli-born Jews 25-44 years old had at least "first academic degree or a parallel degree including an academic certificate," while 41.6% received their highest educational degree "from an institution [leading] towards to an academic degree."

[8] In the second generation the proportion was 10.1% for Ashkenazim and 10.5% for Mizrahim; in the third generation the respective figures were 9.9% and 9.6%.

Type of institution of higher education. We focused on higher education because in the labor market, the critical certificate for success has increasingly become a first academic degree (BA or its equivalent) rather than non-academic post-secondary education. However, because of differences in the economic premium of a college degree by institution (Alon 2015b, Shwed & Shavit 2006), in some educational analyses we distinguished between graduating from various types of colleges and universities.

Earnings: The NII obtains its data about earnings from the Israeli tax authority (including for the self-employed). In most analyses we limited the inquiry to those 30-43 years old. We did so to exclude workers in their first years in the labor market (aged 25-29), when they are job shopping and work intermittently before entering more stable employment. Since the data did not include information on work hours, we included in the analyses only those who worked at least eight months in 2017, the last year for which earnings data were available.

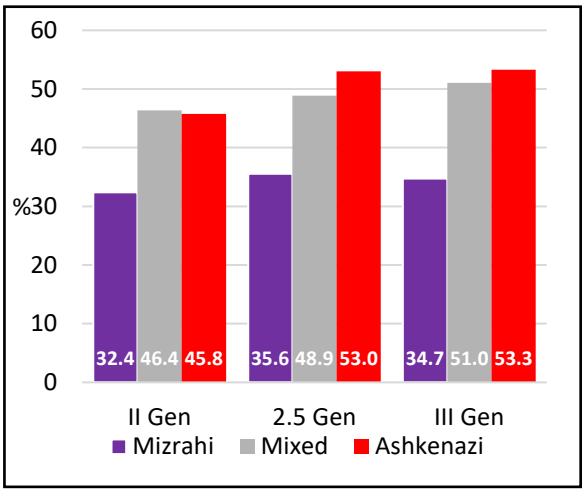
Results

1. Education

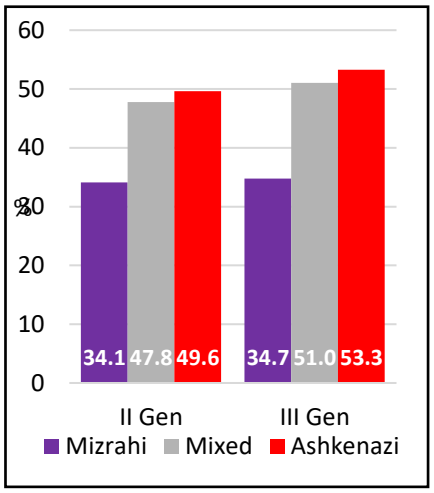
The middle panel of Figure 1, which groups the 2.5 generation with the second generation, presents the percentage of respondents with at least a first academic degree among the three ethnic groups by generation. The results regarding the second generation confirm what we know from numerous previous studies: Ashkenazim are much more likely than Mizrahim to have academic degrees. Specifically, 49.6% of Ashkenazim have at least a BA degree, compared to 34.1% of Mizrahim. In the third generation Ashkenazim increased their educational levels more than Mizrahim: 53.3% of Ashkenazim and 34.7% of Mizrahim are university or college graduates. Consequently, the ethnic gap is somewhat greater in the third generation than in the second generation. Measured in percentage points, the Ashkenazi/Mizrahi gap is 15.5 points in the second generation, compared to about 18.6 points in the third generation, an increase of about 3 percentage points. Those of mixed ethnicity are much more similar to Ashkenazim than to Mizrahim. In fact, they are hardly distinguishable from Ashkenazim in both the second and third generations.

Figure 1: Percentage with at least a BA degree by ethnicity and generation

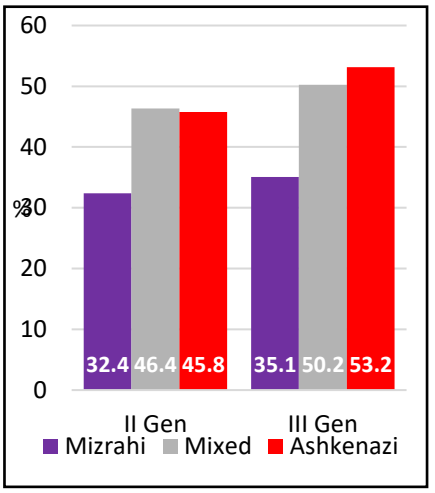
A. Gen 2.5 separated



B. Gen 2.5 -> Gen II



C. Gen 2.5 -> Gen III



These findings are robust. As the right-hand and left-hand panels of Figure 1 show, they are replicated when members of the 2.5 generation (one parent was born in Israel) are classified together with the third generation (right-hand panel), or when the 2.5 generation is excluded from the analysis, or is included as a separate category (left-hand panel). This being the case, in all subsequent analyses we combine the 2.5 generation with the second generation.

Figure 2 shows that the patterns in the educational gaps observed in Figure 1 are similar in both gender groups. Like their counterparts in many rich countries, Israeli women are more likely than men to have at least a BA degree. In Israel, the women's advantage is in part because ultra-Orthodox women are more likely than their male counterparts to attend college. The larger ethnic gap in the third generation is more modest among women than men. Among women, the ethnic gap in higher education is 15.4 and 17.6 percentage points in the second and third generation respectively. Among men, the gaps increased from 15.6 percentage points in the second generation to 19.4 points in the third. Here too, we can see that those of mixed ethnicity of both genders are very similar to Ashkenazim.

Figure 2: Percentage with at least a BA degree by ethnicity and gender (Gen 2.5 -> Gen II)

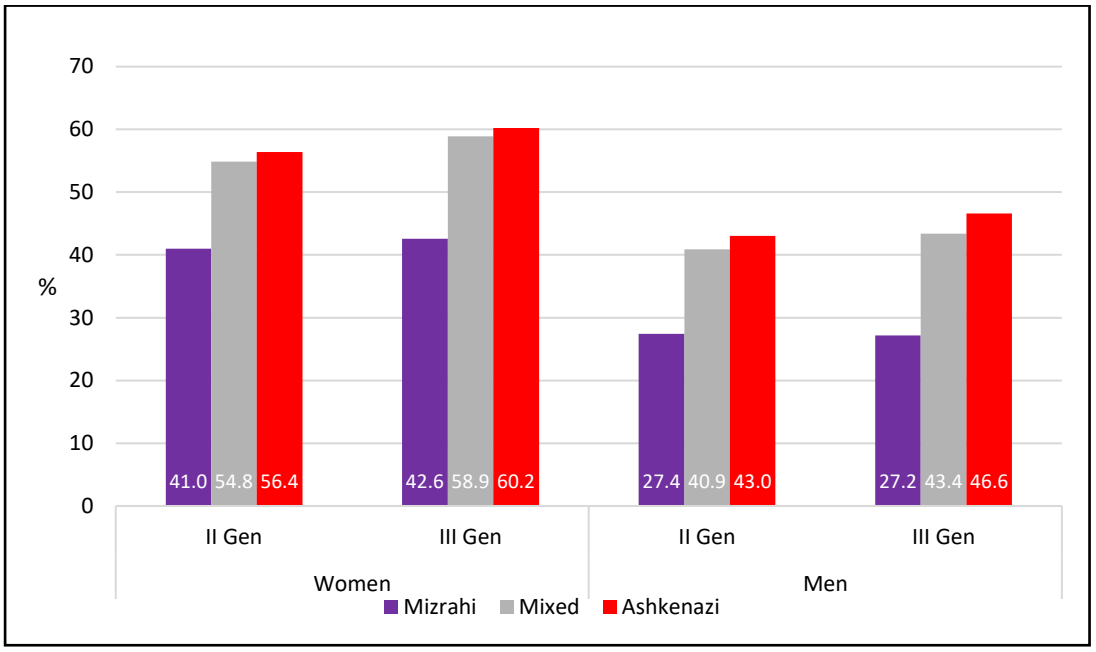
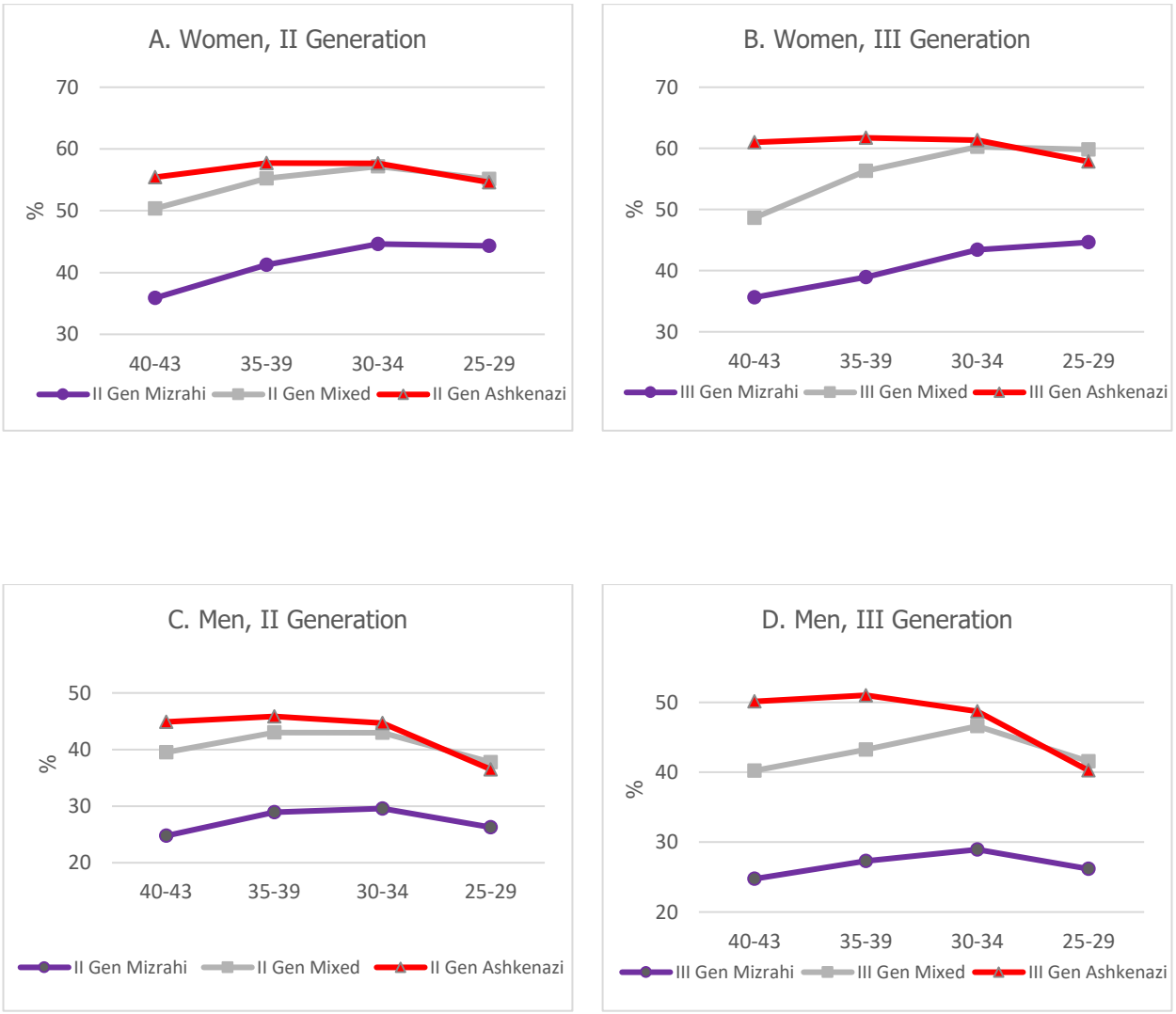


Figure 3 presents the results by age group. In each age group there is about a 5-point increase in the higher education rate of third generation Ashkenazim compared to their second generation counterparts while among Mizrahim, the rates of higher education by age group are similar in both generations. Yet in both generations, the Mizrahi-Ashkenazi gaps are much narrower among younger birth cohorts. Those of mixed ethnicity are in between Mizrahim and Ashkenazim in the oldest birth cohort. However, over time, younger cohorts of ethnically mixed men and women in both generations increased their attendance in institutions of higher education. They are more similar to Ashkenazim, reaching near parity or even slightly surpassing Ashkenazim in the youngest birth cohort.

Figure 3: Percentage with at least a BA degree by age and ethnicity, women and men, II and III generations



There are two possible explanations for the narrower ethnic gaps among younger birth cohorts. First, ethnic gaps in education may develop with age, as more Ashkenazim than Mizrahim pursue academic degrees well into their thirties. Alternatively, and not mutually exclusive, it is also possible that the smaller gaps among younger birth cohorts reflect a real narrowing of the ethnic gap in education over time. Successive Mizrahi cohorts increase their enrollment in higher education more than their Ashkenazi counterparts, thereby narrowing the ethnic gap over time. Given that our results are cross sectional and not longitudinal, we cannot tell precisely the relative impact of each of these two processes. However, Table 1 suggests that the latter process likely dominates the narrowing of the gaps among those in their early thirties (compared to those 40-43). The table compares the ethnic gaps between the age groups 30-34 and 40-43 among 1) all persons in these age groups and 2) among those in the same age groups who have already completed at least three years of higher education before they were 30 years old. Column 5 reveals that in both generations and both gender groups, the Mizrahi/Ashkenazi gaps are smaller by 5.0-7.5 percentage points in the 30-34 age group compared to the gaps among those 40-43. The respective declines among those who received their degree before they were 30 years old are similar: 5.3-8.3 points (column 6). These results imply that the narrower gaps among the younger cohort are not because ethnic gaps develop with age; rather, the declines are due primarily to steeper rises in the higher education of successive Mizrahi than Ashkenazi cohorts, especially among women.[9] Taken together, the narrower ethnic gaps among men and women in their thirties, compared to those 40-43 years old, reflects, for the most part, a real narrowing of the educational gaps among those entering the higher education system in the 2000s and 2010s, regardless of their generation.

[9] The pattern of results (not shown), namely, narrowing ethnic gaps with age, is similar when including those 35-39 in the comparisons.

Table 1. Percentage with at least a BA degree by gender, age, ethnicity, and generation: all persons, and those who completed their degree before age 30.

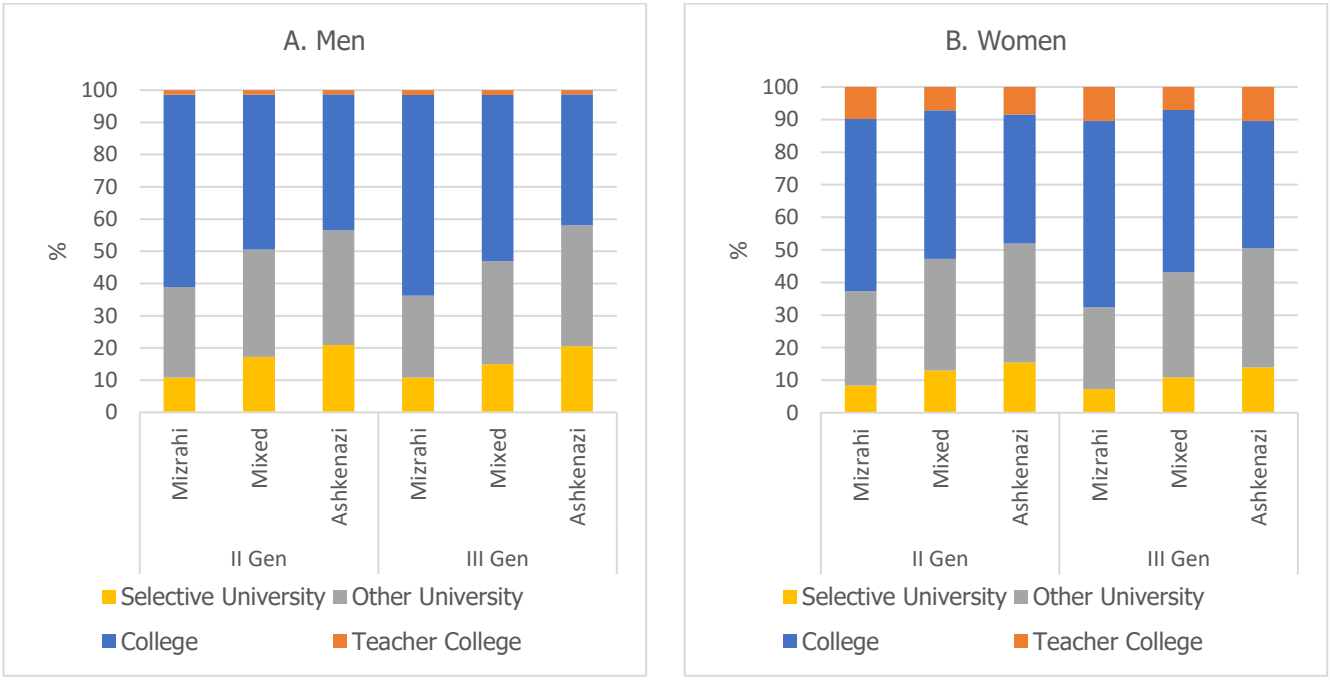
Cohort (age):	30-34		40-43		**Decline in Gap[a]**	
Age obtained BA:	All	<30	All	<30	All	<30
	1	2	3	4	5	6
Women						
II Gen. Ashk.	57.7	55.8	55.4	51.5		
II Gen. Miz.	44.6	42.7	35.9	31.4		
Gap (Ashk.-Miz.)	**13.1**	**13.1**	**19.5**	**20.1**	**6.4**	**7**
III Gen. Ashk.	61.3	59.6	61.0	57.2		
III Gen. Miz.	43.4	41.5	35.6	30.8		
Gap (Ashk.-Miz.)	**17.9**	**18.1**	**25.4**	**26.4**	**7.5**	**8.3**
Men						
II Gen. Ashk.	44.7	41.4	44.9	38.8		
II Gen. Miz.	29.6	27.0	24.8	19.0		
Gap (Ashk.-Miz.)	**15.1**	**14.4**	**20.1**	**19.8**	**5.0**	**5.4**
III Gen. Ashk.	48.7	45.4	50.2	43.2		
III Gen. Miz.	28.9	26.5	24.8	19.0		
Gap (Ashk.-Miz.)	**19.8**	**18.9**	**25.4**	**24.2**	**5.6**	**5.3**

[a]Decline in ethnic gap in percentage points between those 40-43 and 30-34 years old: column 5 = column 3 - column 1; column 6 = column 4 - column 2.

Type of institution of higher education: During the post-1995 period, dozens of BA-granting colleges were established, and non-granting teacher colleges received authorization to grant BA degrees, enabling more Israelis to obtain academic degrees (Alon 2015a). It is possible that Mizrahim disproportionally study in these less selective colleges, while Ashkenazim tend to obtain their academic degrees in one of the more selective and established Israeli research universities, thereby adding another dimension to the ethnic gaps in education. Figure 4 is designed to address this issue. It presents the type of last institution attended by those with at least a BA degree. The

figure distinguishes between four types of institutions of higher education: selective universities; other universities; general colleges; and teachers colleges specializing in training teachers.[10]

Figure 4. Type of institution granting a BA degree among those with at least a BA degree by ethnicity and generation



Among both men and women with higher education, a larger proportion of Mizrahim than Ashkenazim received their degrees from a college, whereas a larger proportion of Ashkenazim obtained their degrees from Israel's universities, particularly the most selective ones. The differences between the ethnic groups are substantial, especially among men. In both generations nearly 60% of Ashkenazi men attend universities, compared to less than 40% among their Mizrahi counterparts. The pattern among women is similar, although less pronounced. About 50% of Ashkenazi women of both generations attend universities, compared with 38% and 32% of Mizrahi women of the second and third generation, respectively. Among both men and women, the gaps

[10] We followed Alon (2015a) in classifying four universities as the most selective: Hebrew University, Tel Aviv University, Israeli Institute of Technology (Technion), and Weitzman Institute.

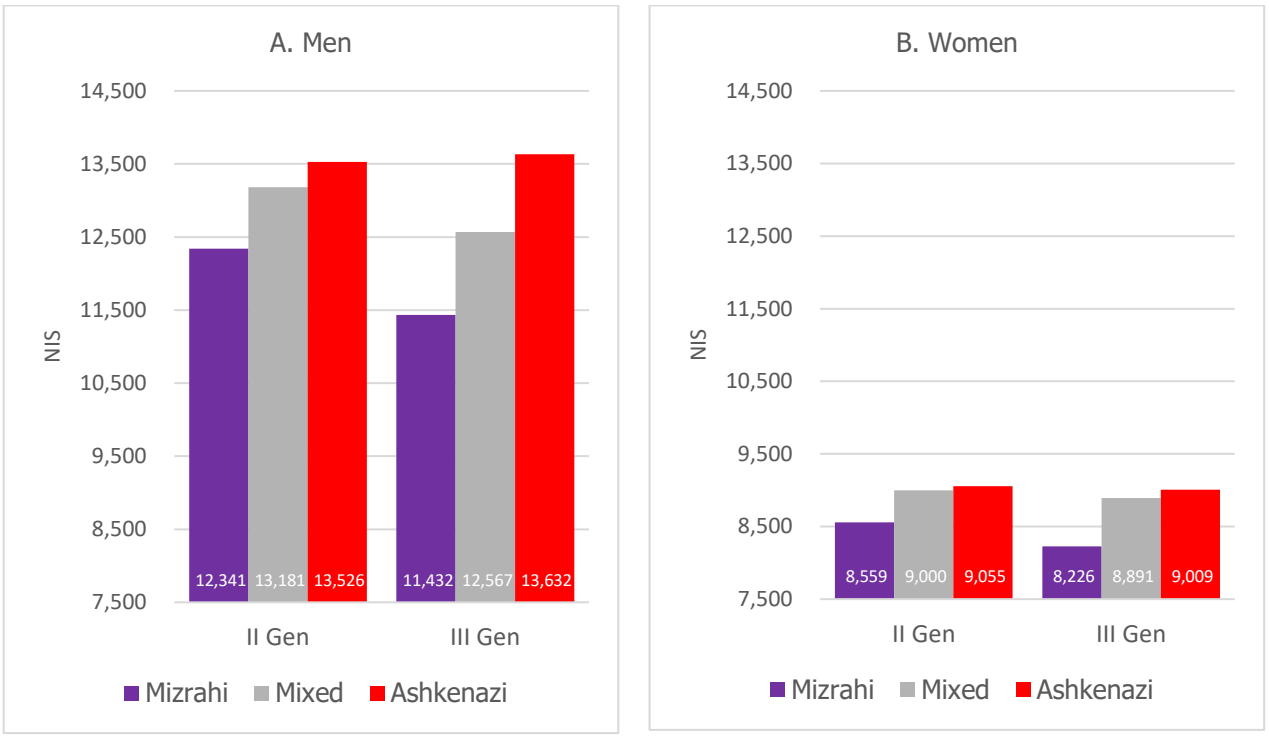
in the rates of attending universities is slightly greater in the third generation. Those of mixed ethnicity are in between the two ethnic groups, but closer to Ashkenazim.

Previous research hypothesized that much of the Ashkenazi advantage in university vs. college attendance is due to the rise of teachers colleges. Such colleges were expected to have more Mizrahi than Ashkenazi women seeking teaching certificates (Cohen et al. 2019). However, the results presented in Figure 4 do not support this hypothesis. In both the second and third generations, the same proportion (about 10%) of Mizrahi and Ashkenazi women received their degrees from teachers colleges. Not surprisingly, however, very few men (less than 1%) obtained their degrees from teachers colleges.

2. Earnings

Figure 5 presents the median monthly earnings in 2017 for those 30-43 years old by ethnicity, generation and gender. Not surprisingly, Ashkenazim, who are more likely to have an academic degree, earned more than the less educated Mizrahim in both the second and third generations. Here again, those of mixed ethnicity are closer to Ashkenazim than to Mizrahim. The Mizrahi/Ashkenazim earnings ratios (not shown) for men in the second and third generation are .91 and .84, respectively, and for women, .95 and .91. The larger earnings gaps in the third generation are probably due, at least in part, to small changes in age differences in the average ages of the ethnic groups. In the second generation Mizrahim are 1.1 years older than Ashkenazim, while in the third generation Mizrahim are *younger* than Ashkenazim by 1.3 years (there are no gender differences in age).

Figure 5. Median monthly earnings for those 30-43 years old by ethnicity and generation[a]

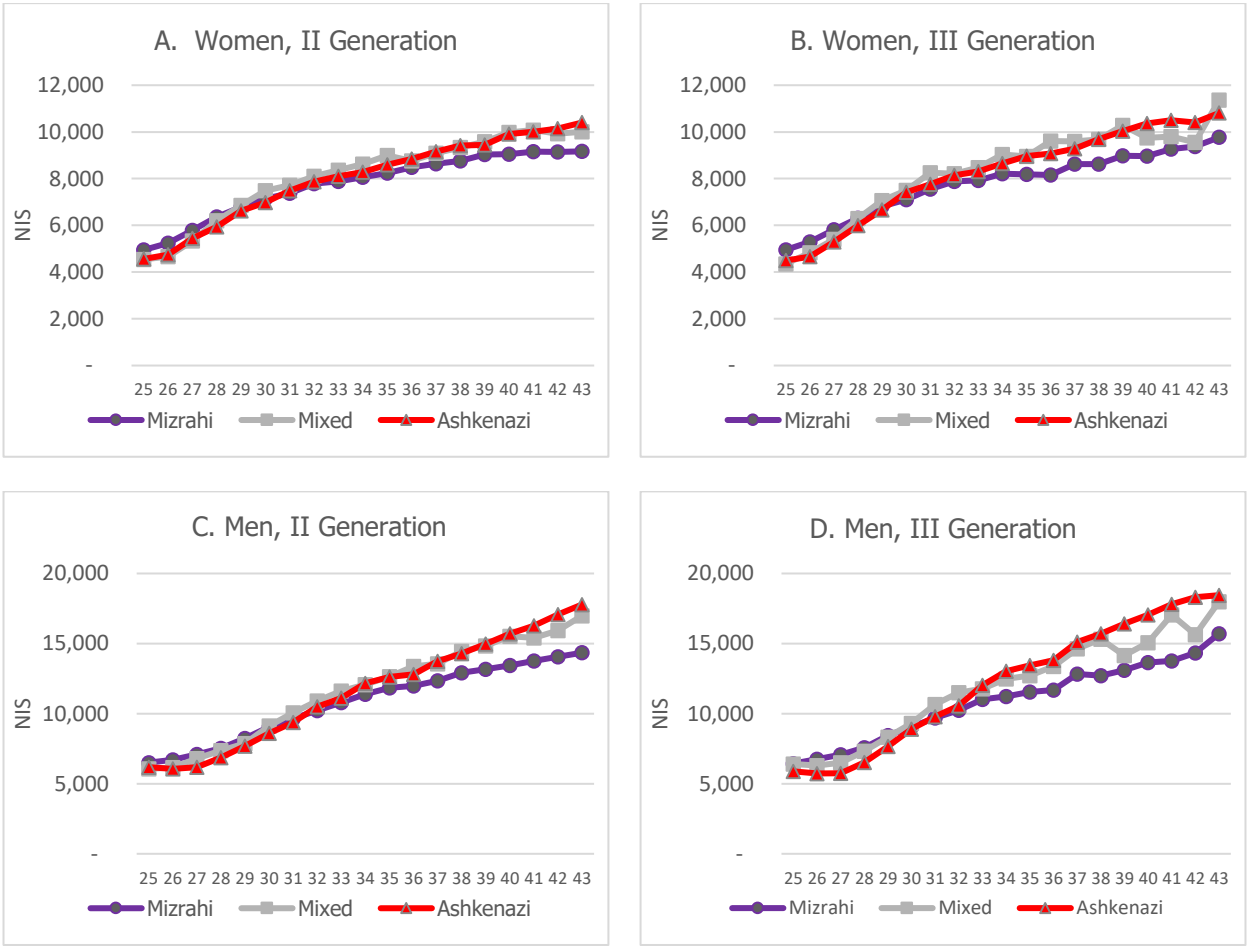


[a]In 2017 New Israeli Shekels (NIS) among those who worked at least eight months in 2017. 1 USD ≈ 3.5 NIS (in both 2017 and 2022).

To control for age, Figure 6 presents the monthly earnings by age for the ethnic groups by generation among all those 25-43 years old. The results are as expected. At age 30, when more Ashkenazim have just finished their studies (or are attending universities), they earn about as much as Mizrahim who are more likely to have entered the labor force earlier and gained some experience, leading to a growth in their earnings. But as any labor textbook explains, college graduates overtake high school graduates relatively early in life and their earnings advantage increases with age. For both generations and both gender groups, the earnings crossover occurs before age 34 and the earnings gaps increase with age. At age 43, the median Mizrahi/Ashkenazi earnings ratios (not shown) are .81 and .85 for second and third generation men, respectively. The same pattern of results – increasing gaps with age – is also evident among women, although their earnings ratios are smaller, reaching "only" .90 and .88 at age 43 in the second and third

generation, respectively.[11] Clearly, the ethnic earnings gap is smaller among women, a finding which is consistent with previous research (e.g., Haberfeld & Cohen 2007). This result is due in large part to the fact that women's earnings are substantially lower than men's for a variety of reasons including labor supply, labor market discrimination, and possibly because ethnic differences in the fields of studies are less pronounced among women than men.

Figure 6. Median monthly earnings by age and ethnicity



Multivariate analyses: One outstanding question is if ethnic gaps in income are driven primarily by higher education, or whether substantial gaps remain even among those of the same educational

[11] While the earnings ratio among third generation women is slightly smaller than that among the second generation, the ratio among third generation men is larger.

level. Table 2, presenting the results of regressions where the dependent variable is (ln) income from work, is designed to answer this question. Columns 1 and 4 present the raw ethnic coefficients relative to second generation Ashkenazim, controlling only for age dummies (not shown). The ethnic coefficients suggest that the Mizrahi disadvantage among women is about 6% in the second generation and 7.5% in the third generation.[12] Among men, the Mizrahi disadvantage is slightly larger, about 9% in the second generation and close to 10% in the third generation. Men and women of mixed ethnicity earn as much as Ashkenazim in the second generation, and slightly more than Ashkenazim in the third generation.

The second model (columns 2 and 5) addresses the education question by adding dummy variables for having at least a BA degree, and a measure for being a student in 2018 (assuming that students work fewer hours, this variable is a proxy for less than full time work).[13] Once these variables are controlled for, the Mizrahi disadvantage disappears for both gender groups in both the second and third generations. This result implies that differences in obtaining at least a BA degree are responsible for the entire Mizrahi income disadvantage observed in columns 1 and 4. In fact, in the third generation, the coefficient for Mizrahi men in column 5 (.021) is higher than the coefficient for Ashkenazim, which is not statistically different than zero (relative to second generation Mizrahim). The last model (columns 3 and 6) replaces the BA dummy with a series of four dummy variables for type of institution (relative to those with no BA). The coefficients for the institution dummies for both women and men are as expected, highest for selective universities and lowest for teaching colleges. The ethnic coefficients in models 3 and 6 suggest that not only is there no Ashkenazi advantage once this variable is controlled for, but also there is a small Mizrahi advantage (similar to the advantage of third generation Mizrahi men observed in column 5). Specifically, in both generations, Mizrahi women earn about 2% more than demographically comparable Ashkenazim who attended similar types of educational institutions. The respective Mizrahi advantage among men is 1.6% in the second generation and 3.6% in the third generation. Those of mixed ethnicity enjoy the highest income once education or type of institution is controlled for.

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[12] Note that in order to assess gaps in the third generation, the coefficients of third generation Mizrahim should be compared to the coefficients for third generation Ashkenazim and not to the benchmark group (second generation Ashkenazim).

[13] For technical reasons it was not possible to include this measure for 2017, but being a student in 2018 is a reasonable proxy for 2017. The regression results are virtually the same without this variable.

Table 2. Regressions for (ln) income from work for those 30-43 who worked at least eight months[a]

	1	2	3	4	5	6
Variables		Women			Men	
Origin [Omitted: 2nd Gen. Ashk.]						
2nd Gen. Miz.	-0.060***	0.005	0.022***	-0.089***	0.000	0.016***
2nd Gen. Mixed	0.002	0.014***	0.017***	0.009	0.033***	0.039***
3rd Gen. Ashk.	0.024***	0.013***	0.014***	0.027***	0.003	0.001
3rd Gen. Miz.	-0.051***	0.019***	0.035***	-0.071***	0.021***	0.036***
3rd Gen. Mixed	0.039***	0.043***	0.048***	0.040***	0.054***	0.063***
Student		-0.192***	-0.199***		-0.277***	-0.292***
BA or higher		0.420***			0.492***	
Higher Ed Institution [omitted: no BA]						
Selective univ.			0.569***			0.618***
Other univ.			0.519***			0.598***
College, general			0.360***			0.403***
College, teachers			0.167***			0.099***
Constant	9.190***	8.969***	8.952***	9.635***	9.418***	9.404***
F	468.0	2162.3	2155.1	947.0	2767.5	2572.4
R^2 adjusted	0.026	0.120	0.135	0.049	0.138	0.146
N of cases	318,332			344,719		

[a]All regressions include dummy variables for year of birth.

*** $p < 0.01$

The income regressions underscore the importance of higher education for understanding income gaps between Mizrahim and Ashkenazim in Israel. Even the limited and crude educational measure we used in columns 2 and 5 (having at least a BA degree) accounts for the entire income differences between Mizrahim and Ashkenazim in both the second and third generations.

Discussion and Conclusion

The main results of our study are unequivocal. The gaps between Mizrahim and Ashkenazim in their rates of academic education are not smaller in the third generation than in the second generation. In fact, they are slightly larger in the third generation. This result, however, does not mean that ethnic educational gaps increased over time. Rather, in both generations the Mizrahi-Ashkenazi gaps in higher education are smaller in 2018 among birth cohorts born in 1975-1993 (analyzed in this paper) than the gaps found in 1995 for birth cohorts born in 1961-1970 (Cohen et al. 2007). In other words, ethnic gaps in higher education, while still very large in 2018, have narrowed somewhat in the past 23 years.

Our results with respect to the slightly wider gap in the third generation than the second generation are more similar to previous research that found little change in the gaps between the second and third generation (Cohen et al. 2007). However, they differ from more optimistic studies reporting substantially smaller educational gaps in the third generation. These latter studies focused on all forms of tertiary education including non-academic studies (Friedlander et al. 2002) or were based on very small samples (Cohen et al. 2019). By contrast, our results focus on academic education and are based on administrative data including nearly the entire cohort of over one million Israeli-born Jews 25-43 years old in 2018. This being the case, we believe the results of this study represent the "true" state of affairs with respect to Ashkenazi/Mizrahi gaps in higher education and earnings in contemporary Israel.

The persistence and even greater ethnic gap in socioeconomic attainment in the third generation is not unique to Israel (Borjas 1994). The earnings of third generation immigrants were found to be lower than those of the second generation in the US (Carliner 1980) and Sweden (Hammarstedt 2009). Previous research on the educational levels of third generation Mexican immigrants in the US relative to the second generation reached no conclusive results (Telles & Ortiz 2008; Ortiz & Telles 2017; Bean et al. 2015). Nevertheless, the weight of the evidence points to the persistence of the gap in the third generation, even when the group of Mexican Americans included the third-plus generation (Waters & Gerstein Pineau 2015). Apparently, in immigrant societies such as the US and Israel, the distinction between second and third generation immigrants is not as salient, in part because of immigrant replenishment (Waters & Jimenez 2005). In Israel, third generation Mizrahim, much like Mexican Americans in the US, were connected to the immigrant generation and the immigration experience. The cohort of the third generation covered in our study was born between 1975 and 1993. For the most part, their grandparents immigrated to Israel after 1947, so most of their parents were born in the 1950s and 1960s. During these

decades and well into the 1980s, Mizrahim were subjected to many forms of individual and institutional discrimination that most likely affected all Mizrahim including the second generation parents and their third generation Mizrahi children. In their own eyes as well as in the eyes of relevant actors – state agencies, educational professionals, employers and the public at large – these members of the third generation were most likely indistinguishable from their same-age counterparts of the second generation (Lamont et al. 2016; Cohen et al. 2019).

While ethnic gaps in higher education did not narrow and even increased across generations, they appear to be declining over time. Successive cohorts of Mizrahim have narrowed the gap with successive Ashkenazi cohorts, especially among women. Our data support this conclusion with respect to those over 30 who for the most part, completed their first academic degree. It is too early to tell, however, if this trend of narrowing ethnic gaps over time will continue among those below 30 years old.

The ethnic gaps are smaller among younger birth cohorts at least in part due to the rise in the educational level of younger Mizrahi men and especially women attending institutions of higher education in the twenty-first century. This rise was made possible in large part due to the expansion of the Israeli higher education system. However, the stratified expansion of the higher education system is responsible for the rise of a new qualitative, horizontal dimension of ethnic educational stratification (Lucas 2001), whereby most Mizrahim attend less selective colleges while the majority of Ashkenazim attend the more selective universities (Zussman et al. 2006). A second qualitative dimension of educational inequality, ignored in our study, is field of study. As Alon (2015b) reported, a larger proportion of Ashkenazim than Mizrahim with an academic degree earned it in high paying STEM (science, technology, engineering and mathematics) fields.

The above suggests that while younger cohorts of Mizrahim, in both generations, were able to narrow the BA gap with Ashkenazim, other developments might give rise to new qualitative dimensions of ethnic educational inequality. Moreover, even the quantitative ethnic gaps reported in this study may underestimate the true ethnic gaps in higher education. The educational measure we use, attaining a BA degree, disregards higher degrees. It is likely that as rates of college and university completion approach saturation among Ashkenazim, their advantage will be in obtaining higher academic degrees such as MAs, MDs, and PhDs. This outcome accords with the expectations of the Maximum Maintained Inequality hypothesis (Raftery & Hout 1993). Indeed, in the NII data, among those who had at least a BA degree, Mizrahim spent, on average, 4.7 years in institutions of higher education, while Ashkenazim spent 5.1 years.

Consistent with previous research, the results reveal that those of mixed Mizrahi-Ashkenazi ethnicity are more similar to Ashkenazim than Mizrahim with respect to their higher education (Cohen et al. 2007; Okun & Khait-Marelly 2008, 2010; Cohen et al. 2019) and earnings. In fact, controlling for age, women of mixed origin have higher rates of college or university graduation than Ashkenazi women. Indeed, this was the hope of the Israeli melting pot ideology, namely, that over time most Israeli Jews would be of mixed ethnic origin, and the Mizrahi-Ashkenazi cleavage would disappear. There are two problems with this wishful thinking. First, the share of those of mixed Mizrahi-Ashkenazi ethnicity among the population of Israeli-born 25-43 year-olds in 2018 is still relatively low, around 15%.[14] It will take more years and an increase in the rate of intermarriage for those of mixed ethnicity to become a plurality, let alone a majority, of adult Israeli-born Jews. Second, intermarriages were found by past research to be non-random. Rather, such marriages typically occurred between highly educated Mizrahim and Ashkenazim (Okun & Khait-Marelly 2010), implying that the remaining group of Mizrahim who marry fellow Mizrahim is likely to have increasingly lower levels of education than average. Given the well-established finding that parental background, particularly education, affects the educational levels of their children, this pattern will not only reproduce ethnic gaps, but may also exacerbate the socioeconomic gaps between Mizrahim on the one hand, and the two groups of Ashkenazim and those of mixed ethnicity on the other. It is plausible that this process explains part of the increase in educational gaps in the third generation between Mizrahim on the one hand and the other two groups of Ashkenazim and those of mixed ethnicity on the other. However, more research is needed to test this hypothesis rigorously.

The results with regard to earnings reveal an Ashkenazi advantage in both generations, especially among men. The observed (unadjusted) ethnic earnings gaps by age, shown in Figure 6, will most likely increase with age, even after age 43. This is because the rate at which earnings increase with age and experience is positively correlated with schooling, where Ashkenazim enjoy a substantial advantage. This prospect implies that for both generations, the ethnic earnings gap for the cohort born in 1975-1987 (30-43 years old in 2018) will increase in the coming decade as they age, reaching their peak in about 10 years when they will be 40-53 years of age (see Yaish and Gabay-Egozi [2019] for analyses based on longitudinal data showing increasing ethnic earnings gaps with age in Israel). Moreover, if the earnings premium for higher education (vs. high school graduates) continues to rise – it increased from 40% in 2000 to 52% in 2017 (Kristal & Rozenfeld-Kiner 2022) – the gaps between Ashkenazim with higher rates of academic education and Mizrahim

[14] The proportion of persons of mixed ethnicity is higher in the third generation.

with lower rates of academic education will increase even more among members of the cohort 30-43 years old in 2018.

The regression analyses suggest that the entire Ashkenazi earnings advantage is due to their higher rates of having a BA degree. Controlling for age and education, Mizrahim, of both gender groups and generations, earn as much as Ashkenazim. Moreover, when type of higher education institution is controlled for, Mizrahim earn slightly more than demographically comparable Ashkenazim. In short, higher education, not labor market discrimination, is the main cause of the Mizrahi disadvantage in earnings.

These findings and conclusions are consistent with recent studies on the wages of third and/or second generation Mizrahim and Ashkenazim (Dahan 2016; Feniger et al. forthcoming; The Marker 2022). Nonetheless, our regression results showing no effect of ethnicity on earnings once education is controlled for should be interpreted with caution. They do not include measures for hours worked and field of study, and are based on a cohort aged 30-43 years old that does not include older workers, where earnings gaps tend to increase.

The problem of tracking the progress of third generation immigrants is not unique to Israel (Jimenez et al. 2018; Tran 2018). One of the main recommendations of the American National Academy of Sciences studying the integration of US immigrants is to collect data on third generation immigrants in America (Waters & Gerstein Pineau 2015). Fortunately, after years of lobbying by academics and Mizrahi activists, the ICBS has recently announced that it will regularly track the socioeconomic attainment of Mizrahim and Ashkenazim (and hopefully also those of mixed ethnicity) of both the second and third generations in order to ascertain trends in ethnic gaps (Kashti 2022). This is very good news indeed, even if it is long overdue (Cohen 2002b; Nagar-Ron 2021). From the press reports it seems that the ICBS will base its ethnic classification on similar methods and data used in this paper, namely, the country of birth of parents and/or grandparents available in the population registrar. However, in addition to this so-called "objective" ethnic classification, the ICBS should also consider asking the Israeli population about their self-proclaimed ethnic identity.[15] Doing so would provide a "subjective" indicator of ethnicity, much like is done in other migration countries where most of the population is third generation or higher.

[15] Lewin-Epstein and Cohen (2019) analyzed the ESS (European Social Survey) special data for Israel that asked respondents the following question: "If you had to define your ethnic origin, which of the following possibilities would you choose?" Response categories were 'Mizrahi', 'Ashkenazi', 'mixed', 'other', 'I do not use these ethnic definitions', or 'refuse'. Only 11% of respondents said that the categories were not relevant or refused to answer. Moreover, the data revealed a strong

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Appendix

Number of cases: cohort of Israeli-born Jews, 25-43 years old in 2018 by ethnicity and generation.

	Mizrahim	Ashkenazim	Mixed	Total	Percent
Total size of Cohort				1,327,866	100.0
Included in the analysis[a]				1,162,197	87.5
2nd generation	166,398	109,037	29,444	304,879	
2.5 generation	198,629	122,782	38,378	359,789	
2nd + 2.5 generation	365,027	231,819	67,822	664,668	57.2
3rd generation	267,790	161,763	67,976	497,529	42.8
Total	632,817	393,582	135,798	1,162,197	100.0
Percent	54.5	33.9	11.7[b]	100.0	

[a] Excluded from the analysis are 165,669 persons (12.5% of the cohort): 4th generation (7,849), 2nd generation Ethiopian immigrants (7,478), and those for whom ethnicity information was missing, mostly in the third generation (150,342).

[b] See footnote 5 for an explanation of why the share of those of mixed ethnicity in the entire cohort is 15% (and not 11.7%).