Chapter 1.
Challenges and Hopes on the Road to Equality of Educational Opportunity

Introduction

Israeli society is rife with disagreement and ideological conflict; yet there is widespread consensus that educational disparities should be eliminated. There is general agreement that education is a key to success in life, and that all Israeli children should be assured equality of educational opportunity. Many also feel that reducing educational inequality may help reduce the substantial economic inequalities seen in Israeli society. Nevertheless, despite the unanimous support for equality of educational opportunity, there are major educational disparities among different social, national, and ethnic groups. These gaps appear to be quite stable, despite serious efforts on the part of the state, and particularly on the part of the education system, to address them.

This chapter describes educational inequality in Israel, and summarizes what is known about its causes. The main argument advanced in the chapter is that inequality of educational opportunities are largely a reflection of economic and educational inequality among their families of origin. Children's educational achievements are determined, first and foremost, by the economic and educational resources available to their parents. Considerable inequality in the scope of these resources prevails among Israeli families, and this gives rise to substantial inequality of educational opportunity among the younger generation. Most of the chapters in this book focus on how various education policy elements can potentially help reduce educational and academic inequality. It appears that, despite the advantages enjoyed by the socioeconomically stronger groups, there is hope that focused education policy may bridge the existing gaps, if not eliminate them. The book outlines policy options of this kind, but first there must be a reckoning with the forces that Israeli education policy must contend with. This chapter begins with a look at certain aspects of educational inequality and inequality of academic achievement. These issues reveal Israel to be an

inequality "leader" among developed nations. This will be followed by a brief discussion of the difference between the concept of "inequality" and that of "inequality of educational opportunity," with attention to the difficulty of separating the two. Following this is an overview of what is currently understood to be the factors that drive educational inequality within the population as a whole, and regarding inequality of educational opportunity between different social groups. The chapter concludes with a look at the challenges facing policy makers in their efforts to reduce these gaps and inequalities.

Educational inequality in Israel[1]

Data presented in this section point to considerable inequality in educational and academic achievements — differences that are particularly striking when comparing socioeconomic levels, or Arab Israelis and Jews. It is important to clarify that the Israeli education system is not an equitable institution. In fact, the opposite is the case. One of the main roles played by education systems is to sort and track students for potential labor market entry. Education systems strive to identify the most talented and diligent students and train them for employment in remunerative and prestigious occupations. Israeli universities, for example, maintain high admissions standards for electrical and electronic engineering, management, medicine, architecture, clinical psychology, and other disciplines — standards met by only a fraction of all higher education applicants. Similarly, the bagrut exams (matriculation) distinguish between three categories of high school students: those who have acquired extensive knowledge (four or five study units) in the most highly valued subjects (e.g., math, the sciences, and English); those who studied the core subjects at intermediate levels; and, those who did not meet the minimum requirements for the bagrut certificate. Only a third of all high school students belong to the highest category, and many belong to the lowest. The bagrut certificate is a classification mechanism that is indicative of students' future chances, both in higher education and in the labor market.

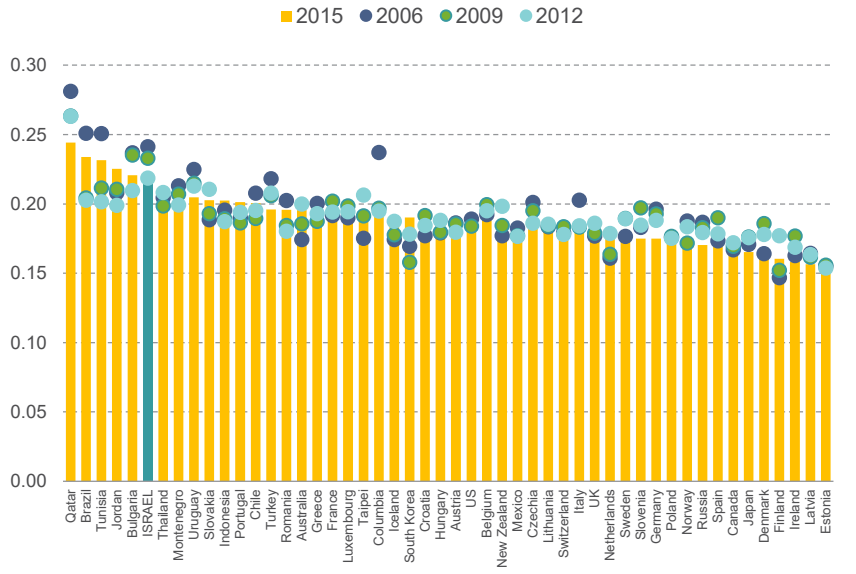
Essentially, the education system classifies and ranks students from the earliest stages of their academic careers. Teachers evaluate their students and rate them on a grade scale. Grades are meant to encourage students to invest in their studies and to reward those who perform well. Grades are, by definition, inequitable. If all students received the same grade, grading

1 Thanks are due to Sidney Strauss for an interesting conversation that helped with the writing of the sections dealing with learning ability.

would not be a means of encouraging serious study, and grades would not, overall, reflect academic success or provide a basis on which to screen students for future study tracks.

Much has been written and said about Israeli students' low scores on international exams, but it is more important to emphasize that Israel leads the OECD countries in achievement inequality between students. Figure 1 shows the inequality levels of a number of countries on the PISA mathematics exams for 2006, 2009, 2012, and 2015.[2] In 2015, inequality between Israeli students in math achievement was among the highest of all countries participating in the exam. A similar picture is seen in other PISA exams (science, computer skills, and reading comprehension). Although the figure also shows that inequality declined in Israel between 2006 and 2009 and between 2012 and 2015, Israel is still one of most unequal of the PISA-participating countries in terms of student achievements.

Figure 1. Inequality in achievements in mathematics on the PISA exams

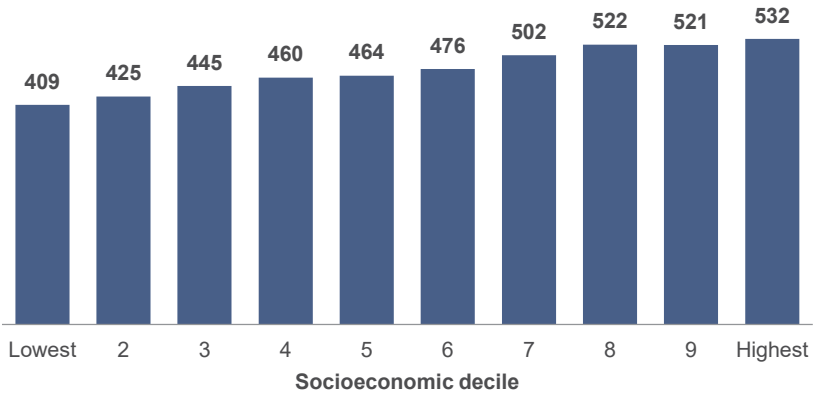


Source: RAMA, 2016

2 The inequality levels are measured using an index called the coefficient of variation. This index assesses inequality while standardizing for each country's average achievement levels. The importance of using this index can be illustrated as follows: In a given country, the average achievement level is 10, and the entire pupil population is concentrated between the scores 5 and 15. By contrast, in another country, the average achievement level is 500, and the pupil population is concentrated between the scores 495 and 505. Both countries have an inequality range of 10 points, but in the second country this range is negligible, given the average score.

Inequality of academic achievement between students is related to differences in socioeconomic background, as reflected in parental education levels and family economic status. PISA studies measure students' socioeconomic background as a weighted average of these variables. Figure 2 illustrates the difference between socioeconomic strata in average science achievements. Israeli students assessed by PISA in 2012 were divided into deciles on the basis of their families' socioeconomic backgrounds, and for each decile an achievement average on the science exam was computed. As expected, the graph suggests a strong relationship between socioeconomic background and achievements. Similar results were obtained for achievements in other subjects as well.

Figure 2. Average achievements in science by parents' socioeconomic group, PISA exams, Israel, 2012

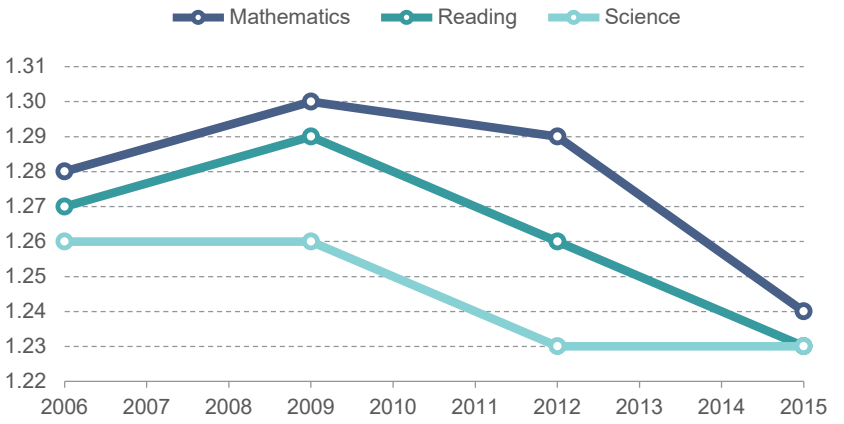


Data: PISA, Programme for International Student Assessment

Nevertheless, achievement gaps between the highest and the lowest socioeconomic levels changed between 2009 and 2015. This is not reflected in Figure 3, which shows the ratio between the achievement averages of the upper and lower socioeconomic quintiles. The achievements were measured in three PISA subjects: math, science, and reading comprehension. Between 2006 and 2009 there was a certain increase in inequality between the socioeconomic levels, but from that period to 2015 a slight decline occurred: in 2009, the math achievement average of the highest quintile was 1.3 times

higher than the average achievement level of the lowest quintile, while in 2015 the ratio dropped to 1.24. In the other subjects, the ratio declined even less.

Figure 3. The ratio between achievements of students from the highest socioeconomic quintile and those in the lowest quintile on three exam areas

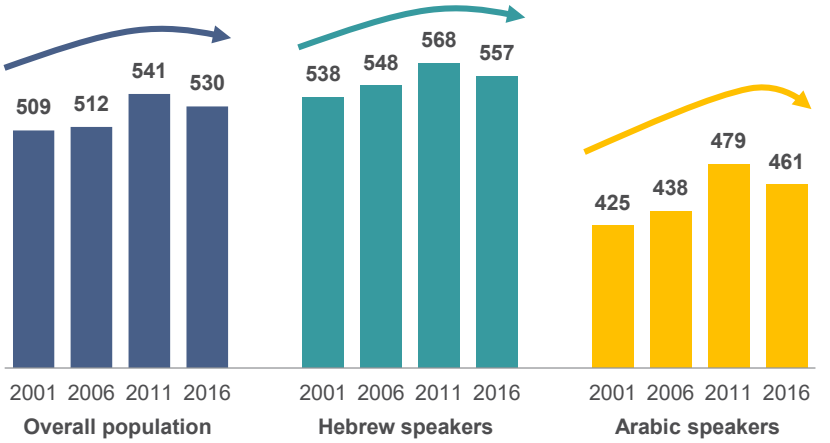


Data: PISA exam data, 2006, 2009, 2012, 2015

Another important dimension of academic-achievement inequality in Israel is nationality. The average achievements of Israeli Arab students are much lower than those of Jewish students (RAMA, 2018). The difference can be seen in Figure 4, which shows the reading achievements of fourth-graders in their first language (Hebrew or Arabic) for the years 2001 to 2016. The figures indicate a large disparity, on the order of a full standard deviation, between Jews and Arab Israelis (*s.d.*=100). The figures also suggest that, between 2001 and 2011, both nationalities showed gains in achievement, which were followed by a certain decline.

Figure 4. Average achievements in reading on the PIRLS exam for fourth graders

Overall student population and by education sector



Source: RAMA, 2017a

The GEMS (Meitzav) exam data published by RAMA (the National Authority for Measurement and Evaluation in Education — an independent statutory unit of the Ministry of Education) point to a substantial decrease in inequality between Jewish and Arab Israeli students in Grade 5 achievements, but also to considerable stability in inequality between the two sectors in Grade 8. This situation is illustrated by the two following figures, which display both groups' math achievements, for both grade levels. In the first figure, one sees the reduction in inequality among Grade 5 students between 2008 and 2017, while the second figure shows the stability in inequality among eighth-graders that characterized this period. The difference between Grades 5 and 8 is even more pronounced on the GEMS English exams.

Figure 5a. Average achievement in mathematics among Hebrew-speakers and Arabic-speakers, 5th grade students

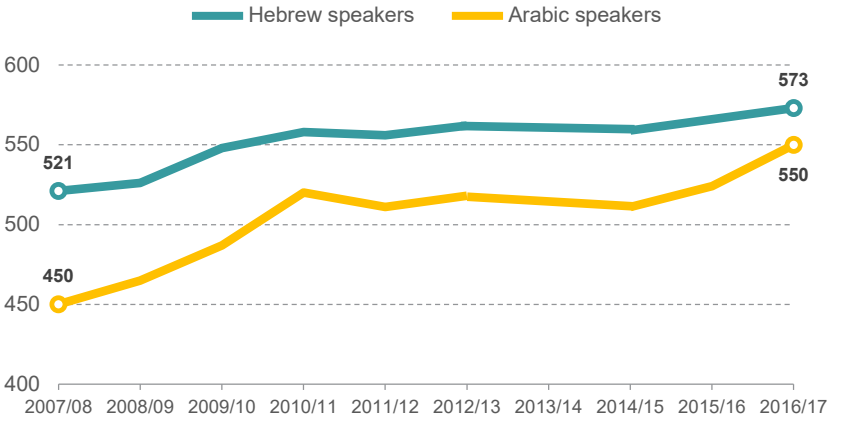
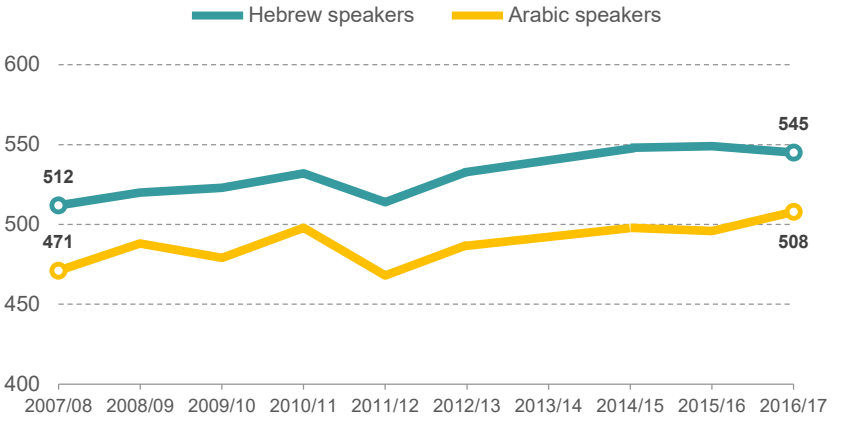


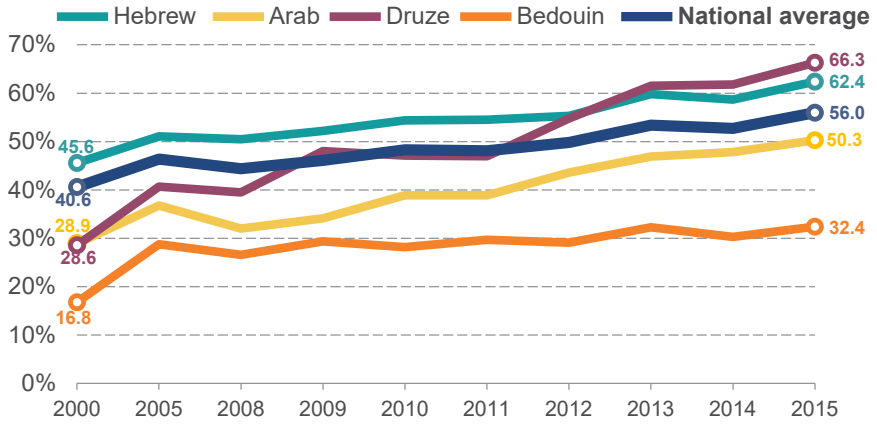
Figure 5b. Average achievement in mathematics among Hebrew-speakers and Arabic-speakers, 8th grade students



Source: RAMA, 2017b

Nachum Blass, one of the authors of this book, studied the differences between Jewish and Arab Israeli students in bagrut certificate eligibility between 2000 and 2015. He found that a substantial increase took place during that period in bagrut certificate eligibility among Jews, Druze, Bedouin, and other Arab Israelis. The growth rates were particularly high among the Druze. Among other Arab Israelis, the rates of increase were similar to those of Jewish students, while the Bedouin showed an especially slow rate of increase. Thus, there was a slight narrowing of the gap between Jewish and other Arab Israeli students in the eligibility rate, but the disparity between these groups and the Bedouin grew. The Druze, by contrast, improved their bagrut certificate eligibility rates to the point where they surpassed all the other groups, including the rates for Jewish students.

Figure 6. Bagrut qualification rates out of the age cohort
By education sector



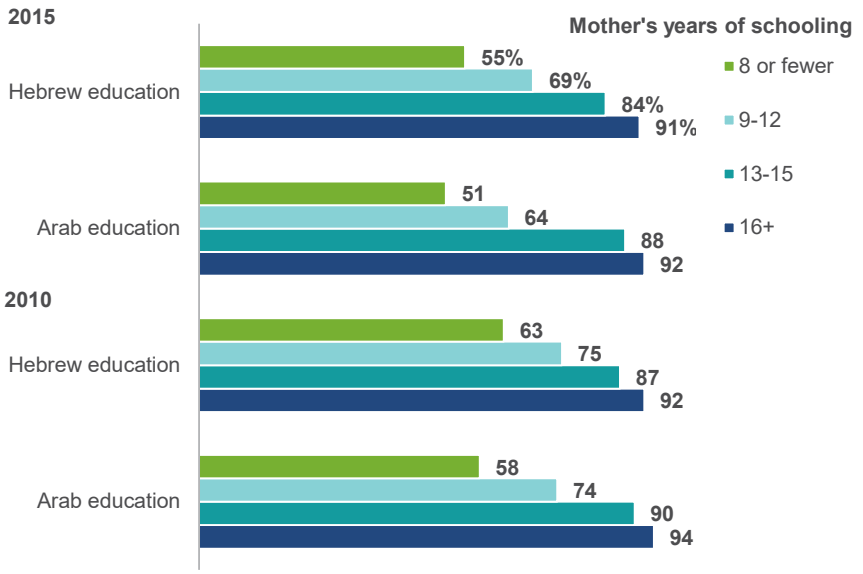
Source: Nachum Blass, Taub Center | Data: Ministry of Education, *Facts and Figures 2015*

It is important to note that much of the achievement disparity between Jewish and Arab Israeli students is related to differences in economic background between these two groups. The socioeconomic background of Muslim Arab Israelis is much lower than that of Jewish Israelis (CBS, 2012). When comparing the bagrut certificate eligibility rates of the two groups while controlling for mother's level of education, the gap between them is smaller than the sizable gap shown in Figure 6. In Figure 6 there is a 12

percent disparity between the two groups, while in Figure 7 the differences between Arab and Jewish Israelis within each category of mother's education level amount to 5 percent or less.

Figure 7. Bagrut qualification rates within 8 years of high school completion

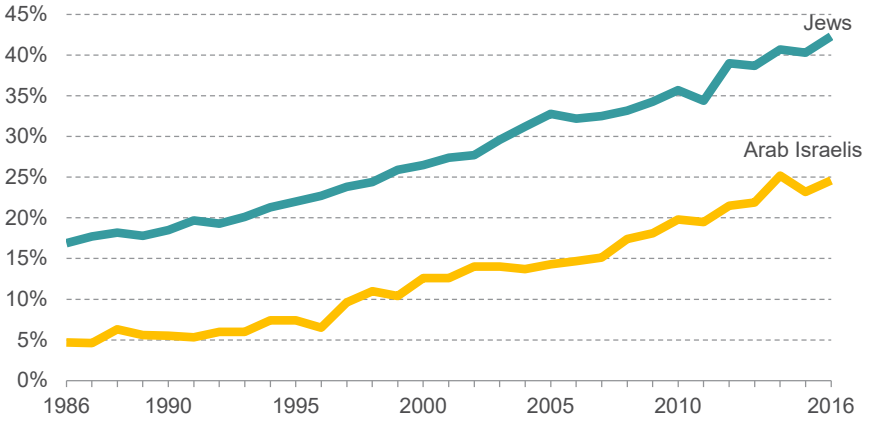
By sector and mother's years of schooling



Source: Maagan, 2016

The higher education sphere also exhibits major disparities between socioeconomic levels and between Jewish and Arab Israeli students. This topic is discussed at length in Chapter 11, which focuses on higher education. Figure 8 below shows that the percentage of young adults (ages 25-35) who have completed 16 years of schooling or more grew over the past three decades, but that the rate of growth among Jews was slightly faster than among Arab Israelis, meaning that the gap between these groups widened somewhat.

Figure 8. Share of those with 16+ years of schooling, ages 25-34
Percent out of total population



Source: CBS, *Statistical Abstract of Israel*, various years

To conclude, the academic achievement inequality levels found in Israel are among the highest of all OECD countries and all PISA-participating countries, despite a certain drop in inequality levels during the past decade. Inequality of educational achievement is most striking between the socioeconomic strata of Israel society, and between Jewish and Arab Israeli students. In recent years, the academic achievement gap between Jewish and Arab Israeli students has narrowed greatly at the primary school level, but has remained quite stable at the middle school level. Disparities in bagrut certificate eligibility rates and in the pursuit of higher education have also remained very stable over the past few decades. An exception is the Druze, who have greatly improved their bagrut certificate eligibility rates in recent years. These data paint a partial picture of Israeli educational inequality. Later in this book, other aspects of educational inequality will be discussed, including gender gaps and ethnic differences in education.

Equality versus equality of opportunity

Those aligned with liberal ideology are reconciled to economic inequality, even seeing it as a factor that drives and encourages economic growth, so long as income is distributed in a way that ensures equality of opportunity

to the members of all social strata. The distinction between equality and equality of opportunity thus requires some clarification. The concept of "equality" refers to the degree to which differences exist between people with regard to a particular resource, such as income or education. Equality is attained when all people enjoy the same amount of the resource. Inequality of income or education is commonly measured by means of various indices — the Gini index, variance in the distribution of the given resource, and the like.

The meaning of "inequality of educational opportunity" is more ambiguous than that of "inequality." Inequality of educational opportunity is generally thought to be closely related to differences in the chances of success of those from different social strata and groups in competition for social and economic achievement. In all human societies, people compete for the chance to acquire education, good employment, and high incomes. The chances of success in these endeavors are not identical, and are linked to socioeconomic background, among other things. Some define equality of opportunity as a situation in which different population groups have the same chance of attaining a desired objective (e.g., high income). According to this definition, the greater the differences between groups, the greater the inequality of opportunity (e.g., Yaish, 2015). This definition is very simple and allows inequality of opportunity to be easily measured, but it ignores important distinctions between the factors that affect people's chances of achieving the various objectives.

One distinction has to do with personal choice and cultural differences in taste and preference. In Israel, for example, different social groups value different things. A striking example of this if the Haredi (ultra-Orthodox Jewish) communities, which tend to prioritize Torah study even when it compromises earning ability or makes it hard for parents to provide their children with material resources (Friedman, 1991). Various Muslim populations also prefer to retain the traditional role of married women, and to limit these women's labor force participation, even at the price of reduced family income.

Some will argue that inequality rooted in cultural preferences do not constitute inequality of opportunity, but represent a choice that engenders inequality. Others feel that differing values and preferences reflect the way in which people perceive the opportunities and limitations before them (Fordham & Ogbu, 1986). Some argue, for instance, that Arab Israelis' academic achievements reflect choices and preferences influenced by perceptions of futility: they believe they will ultimately suffer discrimination in the labor market and fail to reap the benefit of their educational investment.

Studies show that Arab Israeli teens have high aspirations (Yair, Khattab, & Benavot, 2003), but some forgo higher education due to the fear of future discrimination in the labor market (Feniger, Mcdossi, & Ayalon, 2016). That is, Arab Israeli students shape their values and ambitions according to how they perceive the resources and opportunities available to them.

Alongside the distinction between inequality rooted in cultural preferences and/or values and inequality originating from perceived opportunities and limitations, another distinction is commonly recognized: between inequality based on effort, motivation, and ability, and inequality that is discrimination-based or rooted in differences in access to economic and educational resources. As noted previously, those who side with the liberal approach are reconciled to inequality arising from differing ability and effort levels, and even encourage it. They see it as a legitimate situation, and do not define it as inequality of opportunity. By contrast, there appears to be a consensus that inequality of opportunity rooted in discrimination between groups in terms of access to education or other resources is not legitimate and should be addressed.

Interestingly, interclass inequality of economic opportunity is closely related to interclass economic inequality. The economist Miles Corak studied the relationship between economic inequality and intergenerational economic mobility levels, on the assumption that intergenerational economic mobility reflects greater equality of economic opportunity between the classes (Corak, 2013). His findings, which have been replicated by other studies, indicate that, in more equitable countries like the Scandinavian countries, inequality of economic opportunity is relatively limited, as manifested in intergenerational mobility levels. By contrast, in countries where income is distributed very unequally — such as the US, the UK, and Brazil — there is also substantial inequality of economic opportunity. This important finding indicates an empirical relationship between inequality and inequality of opportunity.

The question arises as to why economic inequality is related to inequality of economic opportunity. Corak's findings are based on a large body of knowledge about lifelong achievement processes, and argues that economic achievement is influenced by academic and educational achievement. The latter are influenced by a variety of traits that characterize children belonging to different classes, and by environmental conditions that encourage or discourage learning. The greater the economic inequality between families, the greater the inequality between classes in terms of academic achievement and income.

The reasons for educational inequality between socioeconomic groups

Educational inequality between socioeconomic groups is a universal. Those belonging to the more affluent groups enjoy a variety of advantages in terms of access to resources that positively affect their children's academic achievements. Researchers highlight the differences between socioeconomic groups with regard to accessibility to these important resources: learning abilities, family economic status, parental education levels, cultural capital, and student motivation to achieve. As noted, higher-income groups enjoy greater access to these resources, which ultimately, increases their likelihood of success in their academic pursuits.

Learning ability

Achievement differences between social groups emerge at very young ages. They appear on intelligence (IQ) tests administered to young children, and on tests that measure academic achievements. For example, Breznitz and Norman studied attention skills, reading comprehension, and arithmetic skills among Israeli first-graders (Norman & Breznitz, 1992; Breznitz & Norman, 1998). They then re-tested these children in Grade 4, and found major differences in all areas between students from higher and lower socioeconomic backgrounds. They also found that the socioeconomic grouping gap remained stable between first and fourth grade, and, on some of the tests, it actually widened. Similar results were found by studies conducted in the United States. McCall, for example, showed a relationship between socioeconomic background and babies' success on cognitive tests (McCall, 1981). Feinstein also found that, as early as twenty-two months, there are substantial ability differences between toddlers belonging to different British socioeconomic groups, and that the disparities increase greatly between the ages of 22 months and ten years (Feinstein, 2003).

In the early 1990s, a large-scale study entitled *The Bell Curve* caused a stir among both scholars and the general public (Herrnstein & Murray, 1994). The book dealt with the role of intelligence as a generator of inequality in the United States. Its main argument was that socioeconomic classes differ from each other in their intelligence levels, and that this explains their differing achievement levels. The study authors actually showed substantial intelligence differences between races and between ethnic groups, and hinted that these differences lie behind the superior performance of whites over blacks and Hispanics in terms of educational and economic achievement.

The Bell Curve aroused strong opposition, as the idea of a genetic basis for intelligence differences is reminiscent of eugenics and carries a taint of racism. The eugenics movement, which emerged in the early 20th century, assumed the existence of innate differences, and aspired to improve the human race by encouraging groups with "superior" genes to reproduce at higher rates, while attempting to lower the birthrate of groups with "inferior" genes (Horgan, 1993). These principles were incorporated into Nazi ideology; when the Third Reich fell, the eugenics movement collapsed along with it. However, the idea that intelligence is a trait passed from parent to child by genetic means lives on.

The purpose of this book is to formulate policy options aimed at bridging educational gaps between socioeconomic groups. If intelligence is genetically determined, if socioeconomic groups differ greatly from each other in terms of their intelligence levels, and if intelligence has a strong impact on academic achievement — then it will be very hard to reduce educational disparities, as genetic load is quite stable over generations, and difficult to change through social policy. Fortunately, research has shown that there is room for quite a bit of hope. Intelligence may be a largely inherited trait but, as shown below, its transmission across the generations, and its impact on achievement, take place in combination with environmental factors that can be altered through social and educational policy.

First of all, the term "intelligence" requires clarification. One leading psychometrician defined intelligence simply as "what the tests test" (Boring, 1923). Others view it as a general ability to understand the environment in which we live (Gottfredson, 1997). Psychologists recognize a hierarchical structure to intelligence, with "general intelligence" at the top, designated by the letter "g." The g factor refers to a person's ability to solve cognitive problems in all areas. At the lower levels, intelligence manifests in the ability to solve problems in specific areas (e.g., language, mathematics, graphics, and the like). At the lowest level, intelligence manifests in the ability to solve specific thinking problems, such as particular questions on tests.

Researchers also emphasize the multidimensionality of intelligence, arguing that the g factor, though an important type of intelligence, is not the only one. Sternberg, for example, distinguishes between meta-components (executive processes), performance components, and knowledge-acquisition components (Sternberg, 1997). Gardner, by contrast, identifies multiple intelligences, e.g. linguistic-verbal intelligence, interpersonal intelligence, visual-spatial intelligence, and more (Gardner, 2013). Some sociologists object to the idea of distinguishing between intelligence and academic achievement. For example, Fischer et al. (1996) argue that intelligence

tests essentially measure learned knowledge, such as reading, listening comprehension, and writing skills. Moreover, some questions on intelligence tests are exceedingly similar to arithmetic or geometry questions of the type studied in school; thus, in the view of Fischer et al., there is no essential difference between intelligence and learned knowledge (ibid.).

Individuals differ in their levels of the various forms of intelligence, raising questions regarding the origins of these differences. Behavioral genetics is concerned, among other things, with the effects of hereditary and environmental factors on human intelligence, especially general intelligence. Studies in this field have compared the intelligence levels of relatives, siblings, and twins, and have found great similarity between identical twins, even those who were separated at birth and adopted by families of different socioeconomic backgrounds (e.g., Bouchard & Mcgue, 1981). Researchers have concluded that general intelligence is largely inherited — passed from parent to child. Studies belonging to this school of thought argue that a very high percentage of variation in intelligence — between 40 and 80 percent — can be explained by genetic similarity.[3]

Were the literature review to end here, the conclusion might be that inequality of educational opportunity is due to genetic factors, and not amenable to change. However, current research indicates that the role of genes in intelligence, and the role of intelligence in academic achievement, depend on environmental factors. The importance of the interaction between genetic and environmental factors in shaping human traits can be illustrated by a comparison to the genetic role in skin color. Skin pigmentation is determined largely by genetic factors, but its expression in skin color depends on exposure to sunlight. Without such exposure, relatively small differences would be found in the skin color of children who differ genetically (Adkins & Vaisey, 2010). Similarly, the impact of intelligence on academic achievement depends on the degree to which children are exposed to learning opportunities. For example, in an environment where there is

3 Many researchers are critical of separated twin studies. Such studies assume that the similarity in intelligence between monozygotic twins (twins that developed from a single fertilized egg that later divided into two separate embryos — such twins are of the same gender and are genetically identical) stems from their similarity of genetic load. However, these twins share not only genes, but a specific environment, as the way people relate to them is influenced to a certain degree by their external appearance. By contrast, dizygotic twins (twins that developed from two separate fertilized eggs and are, therefore, not identical) differ not only in terms of half of their genetic load, but also partly in terms of their environment. Thus, in the view of these researchers, the difference in degree of heredity between monozygotic and dizygotic twins cannot be ascribed solely to genetic differences (Beckwith & Morris, 2008).

no teaching at all, intelligence differences will be expressed in only small differences in academic attainment.

An interesting testament to the importance of environmental factors in shaping intelligence can be found in the work of James Flynn on the historical change in intelligence levels in developed countries (Flynn, 2006; Williams, 2013). Flynn finds that, over the past few decades, intelligence levels have risen considerably in these countries. In the United States, for instance, the average intelligence level rose by a full standard deviation between the 1930s and the 1980s. However, the population's genetic load could not have altered substantially within so short a period of time, meaning that the rise in intelligence levels cannot be attributed to genetic change. The cause of the improvement appears to lie in environmental changes, such as better nutrition, increased exposure to intellectual stimulation in school and in everyday life, as well as complex workplace tasks.

In contrast to traditional behavioral-genetics research, which looks at genetic impacts based on similarities and differences between siblings, twins, and relatives growing up under different conditions, studies taking a molecular-genetics approach seek statistical relationships between the expressions of genetic material of different kinds and measured intelligence. Since the mapping of the human genome, studies have abounded on the correlations between intelligence and the full range of genetic expressions and the interactions between them. To date, none of these studies has succeeded in identifying very strong correlations, though the correlations identified by such studies have proliferated rapidly as the measuring instruments have improved. A major pioneering study belonging to this school of thought looks at the relationship between parents' and children's education levels, and the degree to which genetic inheritance mediates between them. Researchers ask to what degree the recognized relationship between parents' and children's education levels is mediated by genetic inheritance from parents to children (Conley et al., 2015). The study findings indicate that parents' genetic load is weakly related to their education levels (r=0.24 for mothers and r=0.09 for fathers), that parental education levels are moderately related to children's education levels (r=0.35, r=0.32), but that only a small share (one-sixth) of the correlation between parents' and children's education levels is mediated by genetic inheritance. That is, the lion's share of inequality of educational opportunity between members of different socioeconomic groups arises from environmental or random factors that have an impact on parents' and children's education levels, and not genetic inheritance.

The research literature on brain development suggests that, during childhood, the brain develops in response to environmental conditions, and these changes can remain even after the environmental factors themselves have changed. Brain development appears to be influenced by a variety of factors, including the exposure to stress (due, for example, to hunger or violence), the age at exposure, and the amount of stimulation (e.g., verbal stimulation) experienced by the infant. Studies show that stress experienced by infants and children growing up under stressful conditions impairs the functional development of various brain regions; this may explain to some extent the relationship between familial socioeconomic characteristics and children's later academic attainments (Nelson & Sheridan, 2011).

To conclude, genetic inheritance of intelligence is not the sole or, apparently, even the primary, factor bearing on educational inequality between socioeconomic groups. Although children's intelligence levels are affected to a considerable degree by genetic inheritance, that inheritance depends on environmental factors such as family economic status and the degree of exposure to cognitive stimulation. Academic achievements are related not only to intelligence but to an array of economic, cultural, social, and institutional factors that affect the availability of learning opportunities. These factors will be discussed in the following sections.

Family economic status

Children growing up in stressful environments display slower cognitive development (Brooks-Gunn & Duncan, 1997), and consequently reach lower educational achievements than do children of more established families, where stress over economic factors, for instance, are less (e.g., Duncan, Morris, & Rodrigues, 2011). Not only that, but economic distress appears to have a stronger impact on cognitive attainments when the stress is experienced at young ages, e.g., under age 5 (Duncan, Yeung, Brooks-Gunn, & Smith, 1998). Researchers attribute the delaying effect of early-childhood distress to the brain's malleability during this period of life (Shonkoff & Phillips, 2000). Moreover, the distress experienced in early childhood affects children's academic achievements at age ten and even beyond. Improved family income levels also appear to have a stronger impact on children's development in the weaker socioeconomic strata than in the more affluent socioeconomic groups (Duncan, Ziol-Guest, & Kalil, 2010), as the relative significance of each additional shekel is greater for them.

The impact of family economic status on children's abilities and academic achievements manifests in children's chances of climbing the educational ladder. For example, the chances of a student meeting bagrut certificate

requirements, or completing academic studies, rise in accordance with family economic robustness (Ayalon & Shavit, 2004; Rotman, Shavit, & Shalev, 2015). This is also true when one controls statistically for cognitive ability. That is, those belonging to the economically stronger groups have advantages that are not merely cognitive. Parents with means can help their children cope with learning challenges in a variety of ways; such parents hire private tutors, buy textbooks, provide computers, and ensure an environment conducive to learning, among other things. They are also able to make the high tuition payments required by private institutions should they desire. Thus, students from more affluent families who do not meet the admissions requirements of the more selective university departments (e.g., management, economics, or clinical psychology) can study at expensive private colleges whose admissions requirements are lower. Those belonging to the lower socioeconomic classes cannot usually afford the high tuition charged by private institutions, meaning that only those whose abilities are strongest gain admission to selective departments in public institutions to pursue their studies.

Cultural capital

The economic factor, as noted, confers substantial cognitive, academic, and other advantages on those belonging to higher-income groups. However, this is just one of multiple factors that benefit those with means. An entire additional set of factors that confer educational advantage on higher-income individuals is known as "cultural capital." This concept has a variety of meanings. The well-known sociologist Pierre Bourdieu defined "cultural capital" as the degree to which a person is involved in the dominant culture of the society in which they live (Bourdieu, 1986). In every society there are cultural values that enjoy higher prestige than others. Israel's current Minister of Culture and Sport, Miri Regev, objects to the fact that Israel's dominant culture is Ashkenazi, and that peripheral cultures, as seen in, for example, Mizrachi music, are discriminated against (Shechnik, Golan, Nuriel, & Eichner, 2016). It has been argued that Israel's education system gives greater expression to content connected with Ashkenazi culture, while teaching little about the culture of Mizrachi Jews (Biton Committee Report, 2016).

Major manifestations of the internalization of a dominant culture include linguistic richness and accent. In many cultures, Israel among them, there are noticeable linguistic differences between people of different classes and ethnic groups. When Professor Henry Higgins wanted to transform Eliza Doolittle into a lady, he strove to teach her proper English pronunciation,

making her recite the sentence "The rain in Spain falls mainly on the plain." Had Shaw's Pygmalion been set in 1950s or 1960s Israel, and had Eliza Doolittle been Mizrachi and Higgins Ashkenazi, Higgins would have had Doolittle soften her *resh* (and *ayin*, and *chet*), and taught her to pronounce things the "sabra" or "native Israeli" way, in accordance with then-current standards.

Bourdieu argued that cultural capital reproduces educational inequality across generations, and that there are two links in the reproduction chain. One of these is family. Educated and families with means are able to invest more in their children's cultural capital than are less-educated, low-income parents. Clearly there are many exceptions to this rule, but on average the rule holds. Better-educated parents use richer language than do less-educated parents, and their children follow suit. Not only that, but affluent and highly-educated parents have more time to spend reading books with their children and conversing with them on general cultural topics and current events; they visit museums and take long and short trips together. Thus, their children accumulate greater cultural capital than do their lower-income peers. When children are asked such questions as "What is the capital of Canada?" or "Who was Ibn G'virol?" or "What is the State of Israel's symbol?" those from stronger socioeconomic backgrounds more commonly give correct answers than do those from weaker backgrounds (Leopold & Shavit, 2013).

The second link in the inequality-perpetuation chain is the schools. Children with higher cultural capital are more successful in their studies, as they are familiar with many of the concepts raised by their teachers in the classroom. Moreover, teachers reward students who have more cultural capital. According to Bourdieu, teachers often make the mistake of assuming that a child's cultural capital reflects their cognitive abilities and personal qualities; they are not aware that it actually reflects the family's investment in the child's cultural load. Teachers assume that substantial cultural capital attests to students' learning ability, motivation, and diligence. Thus, on average, children from better-educated and affluent families receive higher grades in school. These two links, taken together, give children from the highly-educated and affluent sectors an edge over their less-affluent peers. That is, cultural capital helps reproduce educational inequality across generations.

Studies point to yet another important form of cultural capital that contributes to this intergenerational transmission of inequality — familiarity with curricula and with the inner workings of the education system (Lareau & Weininger, 2003). Highly-educated parents know what is taught in the

schools because they themselves went to school. They are familiar with the system's requirements, and know how to approach tests and curricula. This knowledge enables them to assist their children academically, and help them make the right choices with regard to study majors, schools, and universities. They keep their children from making blunders of the kind that can negatively affect those who do not grasp the system's nuances. By contrast, children of less-educated parents are often unaware of the differences between the academic and the vocational study tracks in terms of the chance of earning a bagrut certificate suitable for university or college admission. Children from these backgrounds may also make mistakes and choose study majors for bagrut that offer only small bonuses, or poor chances of success (Gabay-Egozi, Shavit, & Yaish, 2010). They also tend to pursue post-secondary studies that are not well-remunerated in the labor market (e.g., alternative medicine, nursing, or teaching). According to this view, the educational differences between children of different socioeconomic strata stem, in part, from differences in their parents' familiarity with the education system and ability to maneuver between the system's various tracks and trajectories.

Challenges faced by equalization policy

In the preceding sections, we argued that economic, cultural, and educational inequality among parents drives educational inequality among children, for several reasons. Children from more affluent backgrounds have resources available to them that confer advantages in the competition for academic attainments. Compared with children from higher-income groups, children growing up in economic distress face obstacles to physical and cognitive development and academic achievement. These obstacles leave their mark for years to come, affecting lifelong attainments. Those belonging to higher socioeconomic groups also enjoy economic resources that allow them to devote time to their studies, rather than entering the labor market early. They also enjoy comfortable learning conditions, and where necessary their parents are able to invest in private education of various kinds. Moreover, the children of educated parents enjoy cultural capital that is rewarded by their teachers and helps them succeed in their studies and successfully navigate the education system maze. These advantages do not promise automatic success, but they do increase the likelihood of success.

A nation that wants to bridge academic gaps between socioeconomic levels will have to neutralize the effects of the aforementioned mechanisms, but this is no simple matter. The state can adopt one of two strategies: it

can hinder the achievements of the higher socioeconomic groups, or it can work to greatly improve those of the lower socioeconomic groups. The first strategy is undesirable, as it would lower the educational level of the population as a whole. Such strategies are also hard to implement, as the more affluent groups defy measures that threaten their children, and mobilize and organize politically to overturn them. An acceptable policy, at least at the declarative level, would therefore aim to compensate the weaker groups for the deprivation they suffer, and to accelerate improvement in their achievements. On the surface, everyone appears to benefit from such policies.

In general, however, it is hard to improve the achievements of weaker groups without the more affluent paying a price. At the most basic level, any major expansion of social services provided by the state to its citizens, including education services, entails reduced funding for other items in the state budget (defense, for instance), or higher taxes on the middle and upper classes. The political struggle between the economic left and right (as opposed to left-right conflicts over defense, nationality issues, immigration, and the like) revolves around the desired balance between taxation and state expenditure. The left encourages generous welfare spending, while the right opposes the taxes necessary to fund such spending. But the price that the wealthy would have to pay in order to improve the academic achievements of the lower socioeconomic classes is not merely economic. There is also an issue of competition between the classes over education system resources. A few examples will illustrate this.

Studies show that one of the most important resources in the educational process is the students themselves. The chances of a given student reaching high attainments are strongly influenced by the socioeconomic composition and average achievement level of their classmates or schoolmates (Resh & Dar, 2012; Rumberger & Palardy, 2005). The presence of strong students in a classroom contributes to the academic performance of all of the students, while the presence of weak students lowers everyone's achievement level. Integration in education, meaning the integration of students from different socioeconomic groups in classrooms and schools, helps improve students' achievements by enabling weaker students to study alongside relatively strong students, but, at the same time, it can potentially compromise the performance of the stronger students.

Another example, closely related to the previous one, is that of ability grouping — the division of students into groups that are relatively homogeneous in academic terms. On the one hand, ability grouping serves the stronger students, as the teacher can advance more quickly with the

study material when teaching a group of high-performing students. On the other hand, ability grouping could potentially harm students assigned to weaker groups, as the pace of teaching will be dictated by the lowest-performing students in each group. Higher-income individuals have an interest in ability grouping, while lower-income individuals oppose it. School principals who want to attract higher-income parents sometimes promise ability groupings. This is done to the disadvantage of the weaker students.

A third example is that of the inter-class conflict regarding privatization in education (as with the healthcare and other systems). When the public system suffers from a lack of resources, a private or semi-private system will develop alongside it, to serve those who can afford to pay for its services. This is happening in Arab Israeli education. During the first few decades of Israeli statehood, the Arab state education system was in deep distress. Its academic achievement level was exceedingly low, and many students dropped out before entering high school. At the same time, tuition-charging parochial schools were operated in big cities with Arab Israeli populations (especially Nazareth, Haifa, and Jaffa). These schools served, and continue to serve, most of the local Christian populations, while also admitting Muslim students who meet high academic requirements and are able to pay the tuition. In Jaffa and Nazareth, where several such schools are active, they draw the stronger students while leaving the weaker ones for the state education system. This makes it hard for state schools to promote academic achievement, as these schools have to contend with the weakest pupil populations. Privatization thus fosters achievement on the part of economically-privileged students, while impeding achievement on the part of low-income students.

What we may conclude from these examples is that a real reduction in inequality of educational opportunity between socioeconomic groups is a matter of long-term political resolve. The next chapters in this book proceed from the assumption that such resolve does, indeed, exist. These chapters look at different aspects of education policy and identify concrete measures that could potentially reduce inequality of academic and educational achievement between socioeconomic groups in Israeli society.

References

English

Adkins, D. E., & Vaisey, S. (2010). Toward a unified stratification theory: Structure, genome, and status across human societies. *Sociological Theory, 2*(2), 99-121.

Ayalon, H., & Shavit, Y. (2004). Educational reforms and inequalities in Israel: The MMI hypothesis revisited. *Sociology of Education, 77*(2), 103-120.

Beckwith, J., & Morris, C. A. (2008). Twin studies of political behavior: Untenable assumptions? *Perspectives on Politics, 6*(4), 785-791.

Boring, E. G. (1923). Intelligence as the tests test it. *New Republic, 35*, 35-37.

Bouchard, T. J., & Mcgue, M. (1981). Familial studies of intelligence: A review. *Science, 212*(4498), 1055-1059.

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood Press.

Breznitz, Z., & Norman, G. (1998). Differences in concentration ability among low — and high — SES Israeli students: A follow-up study. *The Journal of Genetic Psychology, 159*(1), 82-93.

Brooks-Gunn, J & Duncan, G. J. (1997). The effects of poverty on children. *The Future of Children, 7*(2), 55-71.

Conley, D., Domingue, B. W., Cesarini, D., Dawes, C., Rietveld, C. A., & Boardman, J. D. (2015). Is the effect of parental education on offspring biased or moderated by genotype? *Sociological Science, 2*, 82-105.

Corak, M. (2013). Income inequality, equality of opportunity, and intergenerational mobility. *Journal of Economic Perspectives, 27*(3), 79-102.

Duncan, G. J., Yeung, W. J., Brooks-Gunn, J., & Smith, J. R. (1998). How much does childhood poverty affect the life chances of children? *American Sociological Review, 63*(3), 406-423.

Duncan, G. J., Ziol-Guest, K. M., & Kalil, A. (2010). Early-childhood poverty and adult attainment, behavior, and health. *Child Development, 81*(1), 306-325.

Duncan, G. J., Morris, P. A., & Rodrigues, C. (2011). Does money really matter? Estimating impacts of family income on young children's achievement with data from random-assignment experiments. *Developmental Psychology, 47*(5), 1263-1279.

Feinstein, L. (2003). Inequality in the early cognitive development of British children in the 1970 cohort. *Economica, 70*(277), 73-97.

Fischer, C. S., Hout M., Jankowski, M. S., Lucas, S. R., Swidler, A., & Voss, K. (1996). *Inequality by design: Cracking the Bell Curve myth*. Princeton: Princeton University Press.

Flynn, J. R. (2006). Tethering the elephant: Capital cases, IQ, and the Flynn Effect. *Psychology, Public Policy, and Law, 12*(2), 170-189.

Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the "Burden of 'Acting White'." *Urban Review, 18*(3), 176-206.

Gabay-Egozi, L., Shavit, Y., & Yaish, M. (2010). Hedging risk in curricular choice: A test of a rational choice model of education. *European Sociological Review, 26*(4), 447-463.

Gardner, H. (2013). The theory of multiple intelligences. In A. S. Mayes, & B. Moon (Eds.), *Teaching and learnings in the secondary school* (pp. 38-47). London: Routledge.

Gottfredson, L. S. (1997). Mainstream science on intelligence: An editorial with 52 signatories, history, and bibliography. *Intelligence, 24*(1), 13-23.

Herrnstein, R. J., & Murray, C. (1994). *The Bell Curve: Intelligence and class structure in American life*. New York: The Free Press.

Horgan, J. (1993). Trends in behavioral genetics: Eugenics revisited. *Scientific American, 268*(6), 122-131.

Lareau, A., & Weininger, E. B. (2003). Cultural capital in educational research: A critical assessment. *Theory and Society, 32*(5/6), 567-606.

Leopold, L., & Shavit, Y. (2013). Cultural capital does not travel well: Immigrants, natives and achievement in Israeli schools. *European Sociological Review, 29*(3), 450-463.

McCall, R. B. (1981). Nature-Nurture and the two realms of development: A proposed integration with respect to mental development. *Child Development, 52*(1), 1-12.

Nelson, C. A., & Sheridan, M. A. (2011). Lessons from neuroscience research for understanding causal links between family and neighborhood characteristics and educational outcomes. In G. J. Duncan, & R. Murnane (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 27-46). New York: Russell Sage Foundation.

Norman, G., & Breznitz, Z. (1992). Differences in the ability to concentrate in first-grade Israeli pupils of low and high socioeconomic status. *The Journal of Genetic Psychology, 153*(1), 5-17.

Resh, N., & Dar, Y. (2012). The rise and fall of school integration in Israel: Research and policy analysis. *British Educational Research Journal, 38*(6), 929-951.

Rotman, A., Shavit Y., & Shalev, M. (2015). Nominal and positional perspectives on educational stratification in Israel. *Research in Social Stratification and Mobility, 43*, 17-24.

Rumberger, R. W., & Palardy, G. (2005). Does segregation still matter? The impact of student composition on academic achievement in high school. *Teachers College Record, 107*(9), 1999-2045.

Shonkoff, J. P., & Phillips, D. A. (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington DC: National Academies Press.

Sternberg, R. J. (1997). The concept of intelligence and its role in lifelong learning and success. *American Psychologist, 52*(10), 1030-1037.

Williams, R. L. (2013). Overview of the Flynn Effect. *Intelligence, 41*(6), 753-764.

Yair, G., Khattab, N., & Benavot, A. (2003). Heating up the aspirations of Israeli Arab youth. *Research in the Sociology of Education, 14*, 201-224.

Yaish, M. (2015). Equality of opportunity. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences* (pp. 903-905). Amsterdam: Elsevier.

Hebrew

Biton Committee Report (2016). *Report of the Committee for Empowering the Identity of Mizrahi Communities in the Israeli Education System*. Jerusalem.

CBS (2012). *Society in Israel, Report Number 5: Socio-Economic Gaps*. Jerusalem: Central Bureau of Statistics.

Feniger, Y., Mcdossi, O., & Ayalon, H. (2016). Inequality in bachelor's degree completion: Social background, previous achievement and institutional characteristics. *Israeli Sociology, 18*(1), 82-104.

Friedman, M. (1991). *Haredi (ultra-Orthodox) society: Sources, trends, and processes*. Jerusalem: Jerusalem Institute for Israeli Studies.

Maagan, D. (2016). *"Executive" longitudinal studies in the education system*. Review prepared as background material for the seminar The Use of Data Measured over Time as a Source of Information for Educational Policy and Programs, held by the Initiative for Applied Education Research, the Israeli Academy of Sciences and Humanities.

RAMA (2016). *PISA 2015: Literacy of 15-year-old students in the sciences, reading, and mathematics*. Ramat Gan: National Authority for Measurement and Evaluation in Education.

RAMA (2017a). *PIRLS 2016: International research to evaluate reading literacy in 4th grade students*. Ramat Gan: National Authority for Measurement and Evaluation in Education.

RAMA (2017b). *Meitzav 2017: School Efficacy and Growth Indices*. Ramat Gan: National Authority for Measurement and Evaluation in Education.

RAMA (2018). *GEMS 2018: School Efficacy and Growth Indices*. Ramat Gan: National Authority for Measurement and Evaluation in Education.

Shechnik, R., Golan, R., Nuriel, Y., and Eichner, I. (March 7, 2016). Cultural revolution: In Miri Regev's sights. *Ynet*.