

Educational Inequality in Israel

From Research to Policy

Hanna Ayalon | Nachum Blass | Yariv Feniger | Yossi Shavit



Taub Center for Social Policy Studies in Israel

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 Internet edition

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Foreword

“It turns out that advancing equal opportunity and economic empowerment is both morally right and good economics, because discrimination, poverty and ignorance restrict growth, while investments in education, infrastructure and scientific and technological research increase it, creating more good jobs and new wealth for all of us.”

William J. Clinton

“There’s no reason why children in inner cities or rural areas do not receive the same quality education or opportunities as those in suburbs or wealthy neighborhoods. If we truly believe in giving all citizens a chance to pursue happiness and pursue their goals, then we cannot continue to marginalize entire groups of people.”

Al Sharpton

Education at its best is one of the keys to a better future. The investments we make in our children are among the most valuable investments that can be made, both for them, setting the stage for their growth — personal, social, communal, and economic — and for the improvement of society as a whole, increasing harmony, justice, well-being, and economic growth. A quality education is about much more than information; it develops the ability to reason, to learn from debate and constructive criticism, to hear and understand diverse opinions, to form and articulate educated opinions, and to interact with peers. Because of this, education at its best is a great enabler of social mobility, arming young men and women from weak socioeconomic backgrounds with the ability to leapfrog over their peers into a more financially stable life.

In practice, unfortunately, the lofty ideals of education systems are not always attained. Children raised in affluent families by educated parents often enjoy an advantage in the educational attainment process. In addition, gaps exist in the quality of education available to the different strata of society, and there are signs that these gaps are particularly large in Israel; that there are extra barriers that hinder or even block intelligent, motivated, and able pupils from “the wrong sort of background.” This is a systemic failure. It is detrimental not only to those not given the chance to excel, but to society as a whole; economic growth will be hindered by the failure of a country to realize the human capital potential of its population.

This path breaking book you are holding, authored by four of the leading education scholars in Israel, is only tangentially about differences in scholastic attainments across students — ex-post inequalities in achievements — although these are, at times, indicative of the underlying problem. It is mainly about ex-ante systematic inequalities in educational opportunities available to the different populations in Israel. It carefully maps out these differences and their sources, considers the consequences, and offers options for rectifying the situation. As such, the authors pave the way for policy makers to identify the changes necessary to allow students from all social strata the chance to reach the pot of gold at the end of the rainbow if they apply themselves, which, in turn, can lead to less economic inequality, greater socioeconomic mobility, and an increase in the prosperity and well-being in the country.

May you learn from this book as much as I did.

Avi Weiss

President, Taub Center for Social Policy Studies in Israel

Professor of Economics, Bar-Ilan University

Introduction

Shall the Crooked Be Made Straight?

The Education Plateau and the Challenge of Inequality

Yulie Tamir

We live in the most education-rich era in human history, an era when more and more people are spending more and more time studying a greater number of subjects, acquiring a comprehensive scholastic background, and pursuing academic studies. This ought to be the best of all possible worlds, a world where everyone receives an appropriate education and translates that education into social and economic power. Yet despite this, ever-larger segments of society feel that they are being marginalized, that their options are dwindling, and that their future is looking less and less bright.

For the first time in modern Western history, there is an awareness that the quality of life and life expectancies of large groups of people are declining. More people are suffering from health problems, obesity, and addiction to prescription drugs or controlled substances. Most worrisome of all is the fact that it is unlikely that future generations will be able to improve their status. A large-scale study conducted by the McKinsey & Company consulting firm in 25 OECD countries clearly shows that the coming generations will be poorer than their predecessors.

In a society that venerates economic success and power, education is evolving from a tool for individual development into a socioeconomic positioning apparatus. The appropriate answer to the question “How are your children?” is, therefore, “Compared to whom?” The value of personal achievement is calculated in terms of the power such achievement confers on the individual, and that power is calculated relative to the power wielded by others. Social competition drives not only the will to personal development, but also defensive processes that may be classed under two

* Professor Yulie Tamir served as Minister of Education from 2006 until 2009.

main strategies whose purpose is to perpetuate disparities. One of these strategies preserves the class structure and the gaps embodied in it while improving the education level; the other preserves the class structure even at the price of lowering the general education level.

It is commonly thought that disparities can be remedied by extensive investment in education for the lower socioeconomic strata. It is, therefore, interesting to note that Israeli social gaps have widened despite the fact that, over the decades of Israeli statehood, the education level of the populace as a whole, and of the country's less-affluent citizens in particular, has risen. Between 1955 and 1972, many young Israelis from disadvantaged backgrounds were sifted out of the education system by screening exams that were administered at the end of the eighth grade. However, since the early 1970s, the vast majority of Israeli children have been receiving post-primary education, while the share of those studying for thirteen years or more has climbed from less than 10 percent to nearly 50 percent. In other words, disparities have not been reduced, despite the fact that the lower socioeconomic strata have been participating in educational frameworks at ever-higher rates — from the preschools operated in low-income localities since the Compulsory Education Law was extended in 1992 to ages three and four, to post-primary and academic education.

One could argue that the education provided in Israel's periphery is of inferior quality, and attribute the persistent gaps to that. Still, when we move from a situation where a certain social group suffers total exclusion from the education system to one where it becomes an active participant in that system (even if the education received is of low quality), we can reasonably expect the gaps to narrow, not widen. The fact that social disparities worsened just at a time when public education frameworks were being made available to previously under-served communities indicates the efficacy of the forces that work to perpetuate such disparities. It also suggests that expectations of a cumulative effect from educational processes, i.e., that improving the situation for A, B, and C will translate into an overall improvement for the class or social sector to which A, B, and C belong, are not being fulfilled. On the face of it, this seems strange: if we devote special efforts to improving the health of people from the lower classes, their health status will improve and the gap between the classes will narrow (in infant-mortality or longevity terms). But if we improve the education level of the lower classes, chances are still high that the gap will remain the same or widen. When the stronger segments of society feel that new segments are joining the ranks of the highly-educated, they make supreme efforts to preserve their children's privileged status. They make use of private and

public resources for this purpose, and channel their best energies toward increasing the competitive advantage enjoyed by their children.

The economic crises that have erupted around the world since the early 2000s have further intensified competition. Over the past two decades, we have learned that increasing the availability of education frameworks and improving the quality of education do not ensure a brighter future for our descendants. The vision of a well-educated, working, thriving society to which the Western world has become addicted, is now fading. The post-World War II period led us to believe that growth in general, and educational, economic, and societal growth in particular, would never end; whenever we would look at the education graph we would see it climbing and pointing toward perpetually improving knowledge levels, earning ability, and quality of life for future generations. And then, to our astonishment, came the plateau, followed by the decline.

The education plateau was born of far-reaching societal success, coupled with an unexpected economic slowdown. Most Western societies are close to the educational saturation point. The majority of citizens attend school for many years, learning basic skills and reasoning skills that should guarantee them meaningful social mobility; in many cases, they go on to post-secondary studies. One might have expected that educational saturation would ensure unlimited mobility, as all individuals in a given society are provided with the means needed to move up. But it soon emerged that the market did not adapt to the new educational abundance. Competition intensified, and rivalry over jobs and high-powered positions intensified along with it. Under these conditions of partial scarcity, class power and a desire to preserve the hierarchical social structure underscored the importance of the mechanisms that keep the class structure in place.

An education plateau is a situation where increased quantity of education creates an oversupply that the market does not know how to utilize. This leads to a lower return on educational investment, and to brisk competition for a dwindling variety of quality opportunities. And yet, because the education “product” is becoming more readily and abundantly available, efforts to brand and distinguish between different types of this product are intensifying. Higher education effectively exemplifies this process: rising levels of participation in higher education have coincided with a decline in the economic value of the academic degree. Of course, a person without an academic degree will usually have lower earning ability than someone with a degree, but the return on one’s investment in higher education is determined not by the mere fact of having earned a degree, by the state of the market, or by demand for education, but also — and perhaps primarily —

by the prestige of the institution that awarded the degree. Since the demand for higher education has risen less rapidly than the increase in degree acquisition, a situation of educational abundance has emerged for which there is no corresponding demand. This does not mean that those without education are better off; rather, it means that there are distinctions between different types of education, and this preserves the status of affluent people who can buy the most expensive and highest-quality education available. The rest are tempted by educational options that may appear to be of similar quality, but do not confer the advantage they are seeking.

The student loan crisis in the United States proves that higher education does not provide an adequate return on investment, though the return is still perceived as substantial; young people still take out loans in order to finance their degree studies. In today's America, lower-income people are better educated than before, but also poorer, as they are encumbering their future incomes with student loan debt. In Israel, the cost of higher education is relatively low and a similar crisis should not be expected; but because the return on higher education is declining here as well, a new stratum of "educated poor" is emerging — people who have acquired academic degrees but are not earning a decent livelihood, whether because the fields they studied are not in demand (music, art, philosophy) or pay poorly (teaching, social work, nursing), or because the institutions they attended lack prestige, or because there is a glut of graduates in their chosen professions (law, for example).

Regarding educational quality, in Israel, as in the US, the class disparity remains. Admission to a high-demand, potentially lucrative course of study, at one of the more prestigious institutions, entails high matriculation scores, a high psychometric exam score, and, often, service in an elite IDF unit. Since all of these things are largely dependent on parental education levels and income, the class structure is perpetuated and existing social stratification is left undisturbed. It turns out that making education available to more and more people does not, in and of itself, bridge social gaps — it actually widens them. In other words, society as a whole becomes more "educated," but the disparities remain and even worsen.

Even in our present education-saturated world, maternal education level is the best predictor of a young person's success — a fact that suggests how hard it is to counterbalance the effect of the home environment through systemic intervention. The fact that highly-educated mothers tend to bring children into the world with similarly-educated partners means that parental advantage generally reinforces itself. One can actually discern the emergence of educated classes that are replicating the socioeconomic power structure.

It is, therefore, not surprising that Hanna Ayalon, Nachum Blass, Yariv Feniger, and Yossi Shavit conclude, in this compelling book, that there are no simple solutions to the inequality problem. A single, well-known insight resounds from every chapter: educational inequality is a reflection of the academic and general inequality of the parents. In an inequitable social system, the drive to perpetuate class power is one of the strongest forces in operation. What this means is that parents will do whatever they can to assure their children of the advantages that they themselves enjoy. The outcome is an exacerbation of existing inequalities, and the creation of a social hierarchy in which the strong safeguard their status from all possible threats.

We need to admit that we know very little about how to bridge gaps effectively and promote equality of opportunity. In competitive societies, the education race has no finish line. The desire to climb within the socioeconomic hierarchy (or at least to stay where one already is) perpetually stokes consumer anxiety among parents, and makes it impossible to reach a state of educational satiety. In other words, as long as class competition fulfills a central social function and plays a major role in identity-consciousness, attempts to row against the current are almost always doomed to failure. Thus, the place to launch the struggle for educational equality lies far from the classroom. What is needed is a change in the prevailing discourse on society and status. This is not meant to imply that bridging gaps is a lost cause. The opposite is true. There is a growing awareness of the damage caused by socioeconomic disparities, of the distress in which the middle class is mired, and of middle-class people's growing fear of sliding into poverty. There are also early signs of concern on the part of the ultra-wealthy, who feel a moral duty to bequeath their wealth to society. These things testify to change and to the beginnings of a discourse favoring decisions oriented toward equitable distribution.

The attempt to separate education from society, to make local educational corrections without reorganizing the existing value and social systems, perpetuates the problem: the strong will make full use of the advantages the system confers upon them while adding a little extra of their own, while the weak will make limited use of their own advantages and remain weak. Education and class separatism will remain intact, as will society's division into subgroups linked by ever-weakening ties.

Education and teachers cannot be made to bear the full responsibility for problems of economic growth and the persistence of social disparities. Focusing on education makes it easier for governments to leave the social order in its existing materialistic, inequitable, insular, and solidarity-poor

state. It also obviates the need to figure out how to create a social system that is fair and that inspires sufficient trust that we can fund it willingly, even if it serves broader interests than our own and those of our children; or how to divide up resources so as to bridge social gaps and ensure that social opportunities are distributed more equitably. Barring change of this magnitude, what looks like a process of educational change is merely local correction destined to preserve the existing unjust, class-based social structure, and to create a professional work force capable of participating in the labor market and strengthening it, but not of generating societal change. This does not mean that we should release the education system from all commitment to continuous improvement or constant effort to actualize social values and advance the goals set for it. But we should refrain from charging teachers, or the education system as a whole, with tasks that are beyond their powers. The desired change will come only if we learn how to situate the relevant educational processes along a continuum of political, social, legislative, and economic change that will place the demands being made of the system in the proper context, and provide the system with the set of conditions needed to fulfill those demands.

Unfortunately, there are no shortcuts. Without change in the value system or the way in which Israeli citizens make decisions and manage their affairs, the education system will continue to reflect what we would prefer not to see — the lack of social and class solidarity, the veneration of personal success, and the selfish priorities that characterize contemporary Israeli society. Janusz Korczak said that “to repair the world is to repair education,” but in our current reality that aphorism needs to be turned on its head: we will be able to repair education only if we aspire to repair the world. Only then will education cease to be a tool for perpetuating the existing state of affairs and become a means of changing and improving society.

A realization that the free market cannot cope with today’s social and political challenges is seeping into Western societies, and there is a growing recognition that the state — as a defense apparatus and security net — is crucial both for the homeless sleeping in the street, and for the large banks. In times of crisis, there is no substitute for the state. The societal changes required are systemic ones that can be made only via governmental tools. We must, therefore, ask how the state can build social and educational support systems that will advance educational and social objectives, and how, based on an understanding of the present crisis, we can strengthen the public systems generally, and the education system specifically, and give them the support they need.

Cooperation between the various systems, and societal willingness to take the value-system that education represents and implement it in the renewed political and social space, can provide an alternative to the current social vision in which the strong are the winners and the weak are marginalized. This kind of systemic change will entail a recognition of the huge gap between the values that society openly embraces, and those that guide its actual behavior; it will require that the corrective and legislative entities, including the courts, take into consideration the values that the education system represents and cultivates; and it will oblige the middle and upper classes to relinquish a small share of the advantages that they are amassing for their children, in the form of money and human capital. In order for such change to occur, it will be necessary to bolster trust in the public education and economic systems; to curtail the constant supervision to which the public sector is subjected via endless tests, evaluations, forms, criteria, and rules; and to allow public services to do their work – to serve the public. The benefit reaped from such change could potentially be great. It could encourage dialogue between members of different communities and classes, soothe middle-class anxieties about being crushed under the wheels of the global economy, strengthen community and national relations, and quell the desire to perpetuate or widen existing gaps.

The past decade has taught us that overly-competitive societies, where each individual is concerned solely for themselves, can be expected to be the main losers of the coming decades. Perhaps the fear of losing what one has (the main driver of human action) will cause those with the power to effect change to halt the race for personal success and to think about group success as the key to a better life. Understanding that the education system has only limited impact and requires cooperation on the part of the political and legal systems, as well as large-scale public support, does not constitute giving up. The road to change is grueling and arduous, but not impassable. Change entails collaboration between various social and public systems, and an understanding that we have no alternative but to try and formulate a new social contract, one with costs for the individual but tremendous profits as well.

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 Israel¹

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.

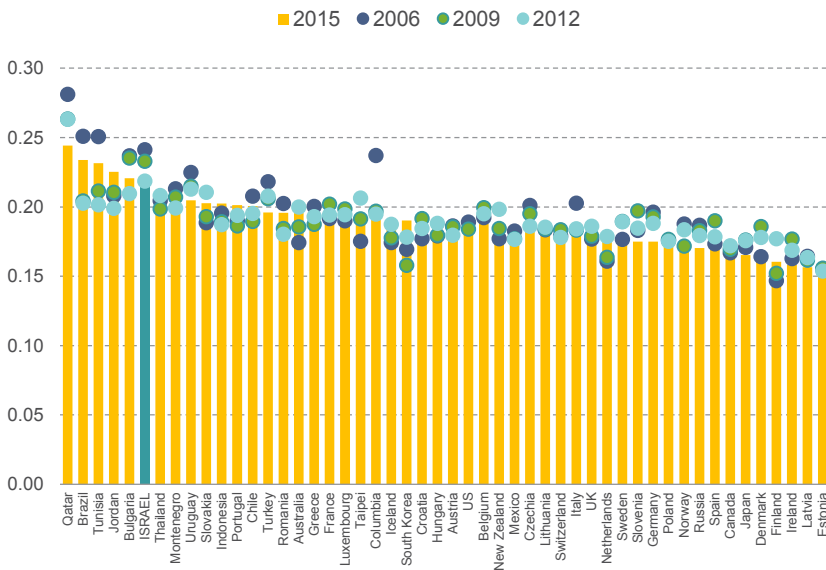
Essentially, the education system classifies and ranks students from the earliest stages of their academic careers. Teachers evaluate their students and rate them on a grade scale. Grades are meant to encourage students to invest in their studies and to reward those who perform well. Grades are, by definition,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

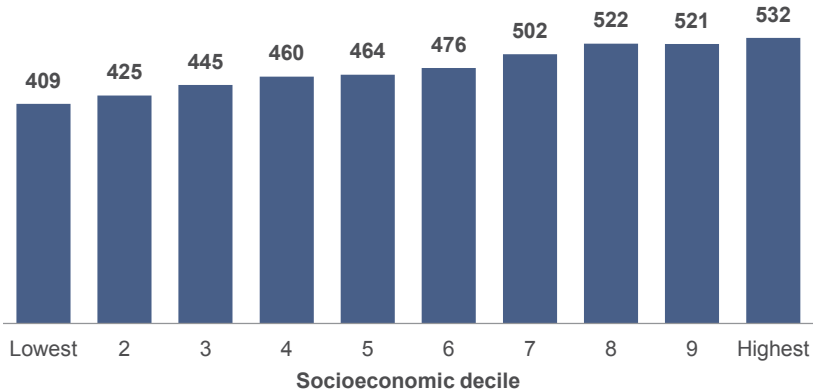


Source: RAMA, 2016

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

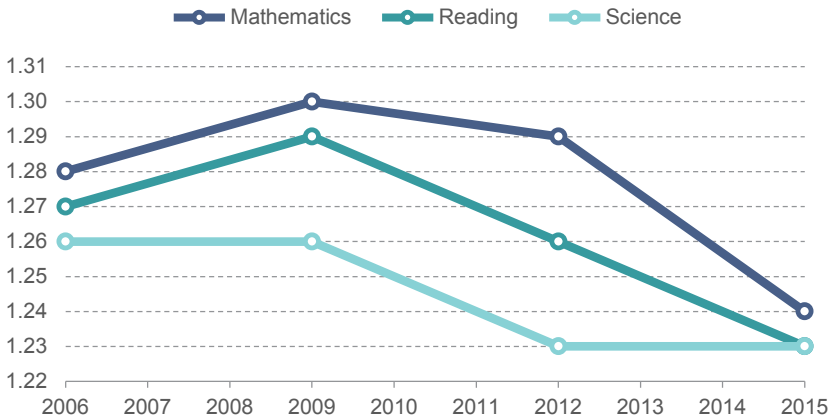


Data: PISA, Programme for International Student Assessment

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

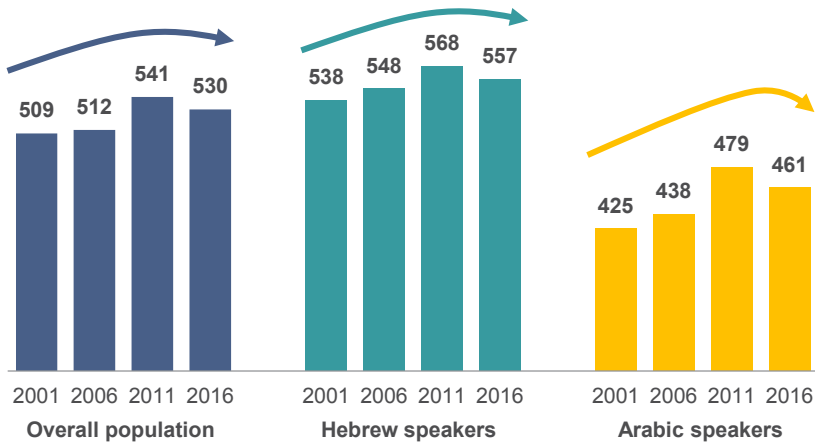


Data: PISA exam data, 2006, 2009, 2012, 2015

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

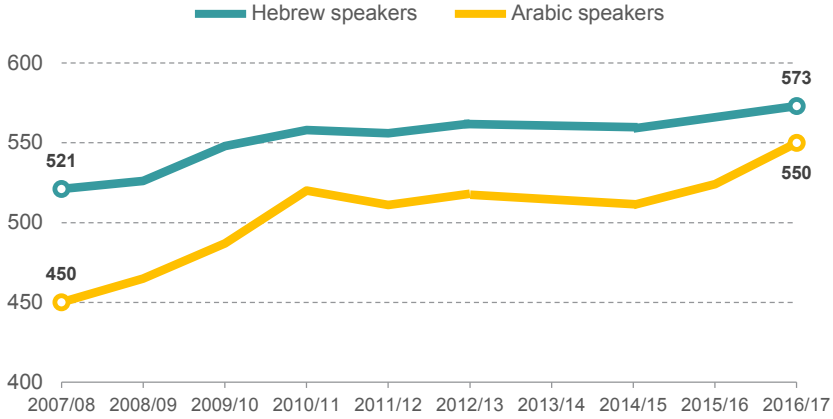
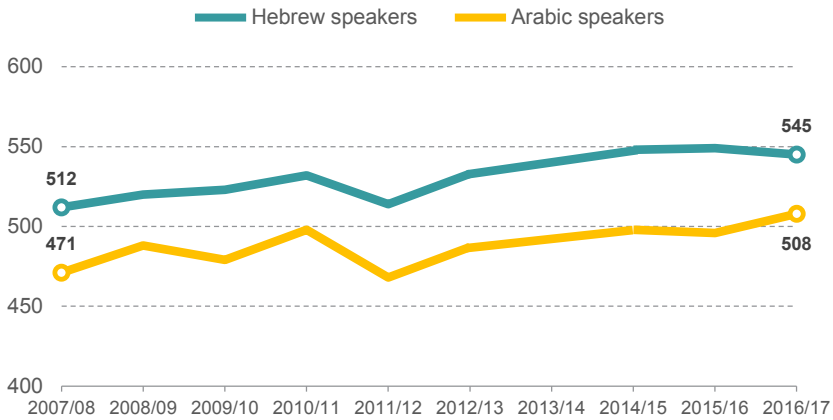


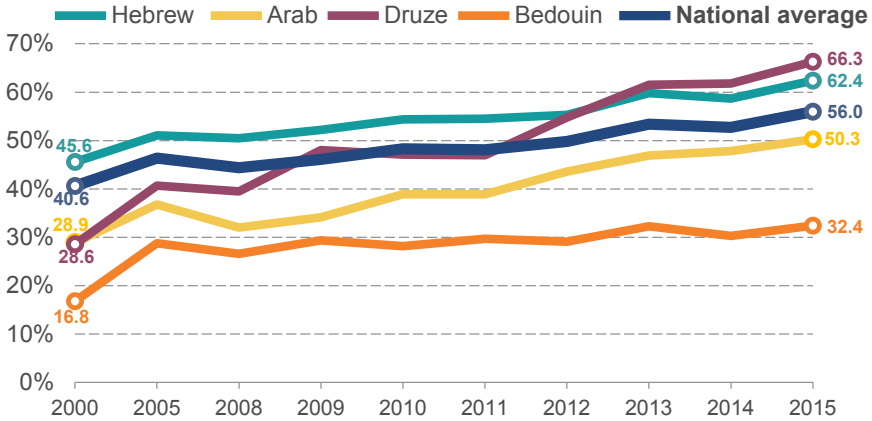
Figure 5b. Average achievement in mathematics among Hebrew-speakers and Arabic-speakers, 8th grade students



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



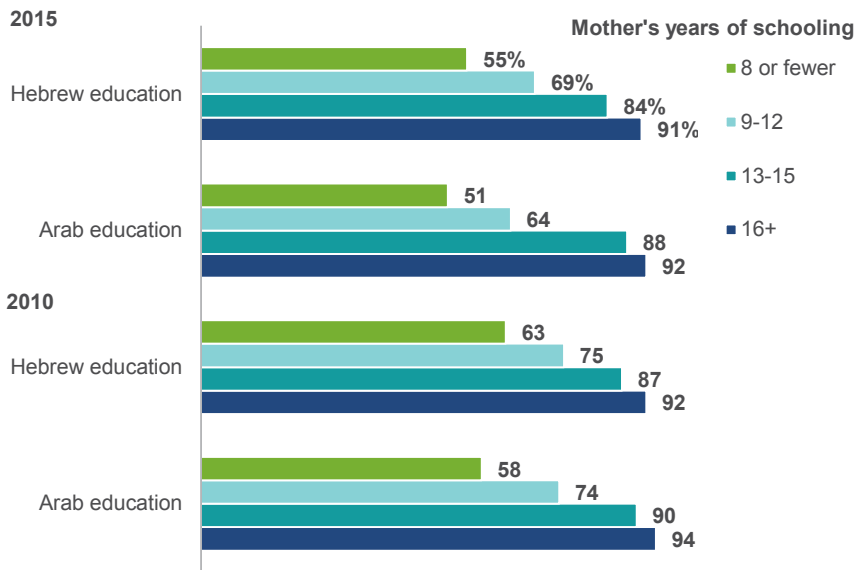
Source: Nachum Blass, Taub Center | Data: Ministry of Education, *Facts and Figures 2015*

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

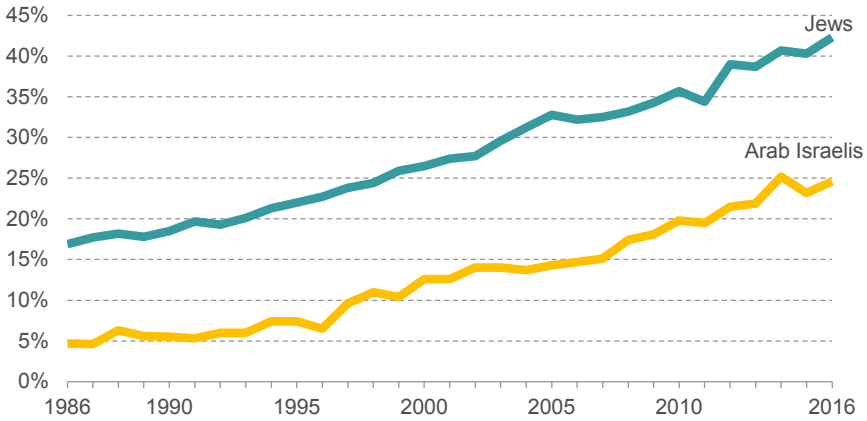
By sector and mother's years of schooling



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 is 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, Mizrahi 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 Mizrahi 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 Mizrahi 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.

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Chapter Abstracts

Chapter 2.

Privatization, Choice, and Equality in Education

A major characteristic of modern education systems is the state's commitment to their funding. This commitment aside, however, the last few decades have seen some countries withdraw from the full public model, in which the state bears sole responsibility for the provision of education services to the entire student population. Alternatives to the full public model include: the voucher system, which allows government funding of education services in private schools; charter schools, which are publicly funded and operate within the public system but are run by NPOs or private companies; and special schools established within the public system in order to diversify the study programs and to promote specific fields of study, such as the sciences or arts. These alternatives make the issues of parental choice of schools, and the screening mechanisms employed in school admission processes, much more crucial than in the past. This chapter presents examples of changing policies on school privatization, and the development of student selection and screening processes in countries with different social and political profiles: the United States, Sweden, and Chile. Our discussion of these examples will center around the question of how privatization and screening and selection mechanisms impact inequality between students from different social groups. The chapter then examines the relevant changes underway in Israel, looking at their effect on educational inequality.

Chapter 3.

Tracking and Its Impact on Inequality in Education

Educational tracking is mostly carried out in middle-school ability groupings, and in the division to academic and technical-vocational education (TVE) in high school. Over the years, the size of academic and technical-vocational programs as well as attitudes toward them have changed in both the Hebrew and Arab education systems, although in different directions. After an initial period of growth within Hebrew education, there was a considerable drop in participation in this track, following heavy public criticism. Arab education, which was early on characterized by low participation rates in TVE, experienced a period of growth and currently participation rates are higher than in Hebrew education. The decline in participation rates in TVE in Hebrew education was accompanied by new programs in the academic track, aiming at integrating students from weaker socioeconomic backgrounds with learning difficulties. The past few years, though, have seen a renewed push by the Ministry of Education to set new goals for technical-vocational education. Those in favor of expanding technical-vocational education claim that it will narrow gaps between periphery and center and between different socioeconomic groups; that it will help the economy which is currently facing shortages in workers trained in technical-vocational skills, and will also strengthen education towards work values. They also claim that such training is preferable to the alternative programs offered in the academic track. Those opposed claim that TVE actually perpetuates inequalities, despite the recent programmatic changes, since the tracks that offer the most limited opportunities mainly absorb underprivileged populations.

Chapter 4.

Segregation and Integration of Ethnic Groups and Social Classes in Schools and Classrooms

The Israeli education system is characterized by a large degree of separation between students on the basis of sector, religion, ethnicity, gender, and socioeconomic group. This chapter discusses integration and separation between students and population groups within the education system. Some view integration of students from different socioeconomic groups as an important tool for strengthening weaker students and bridging education gaps. An additional argument in favor of integration is that bringing different groups together in schools and classrooms fosters mutual understanding and improves relations between the groups. Others regard integration as an obstacle to effective teaching, as teachers have trouble handling classes that are heterogeneous in terms of student learning abilities. There are also socioeconomic groups that oppose integration due to concerns that integration may compromise their children's achievements or religious education. This chapter looks at various aspects of educational integration. First is a discussion of the scope of stratification and the degree of integration in Israeli schools between religious groups, between groups of differing religious observance levels, between sectors, and between socioeconomic groups. The second part of the chapter gives a brief overview of the beginnings of the educational integration idea. The third section looks at educational integration policy in Israel, while the fourth section examines the advantages of integration and its potential utility in bridging education gaps and improving relations between population groups.

Chapter 5.

Resource Distribution in the Education System

This chapter looks at the processes and rules determining the scope and resource allocation by the Ministry of Education, the local authorities, households, and other agencies to formal education in Israel, from preschool through Grade 12. We also examine how resources are allocated within the education system and among different population groups. The chapter presents the consequences and outcomes of the budgeting rules, with a focus on disparities in the amount of funding available to the various parts of the system; it also offers a summary of the historical trends and developments that have led to the current situation.

The main conclusions are that Israel's education system is characterized by large gaps both between the Hebrew and Arab education systems, and within the Hebrew system itself between its various educational streams. However, these gaps have narrowed somewhat in recent years, especially between the Hebrew and the Arab education systems. The factor with the greatest impact on both funding amounts and disparities is the Ministry of Education. It is, therefore, the Ministry that should bear most of the burden of narrowing the gaps. Ultimately, it would seem that the most effective tool for eliminating disparities is a differential basket of services per student. This basket of services should be available at all educational levels, from preschool through high school and it should include all of the elements necessary to provide all students with a basic education, and should be sufficiently large to ensure education at a level that will satisfy most parents and convince them to stay in the public education system, rather than switching to private systems.

Chapter 6.

Is It Worthwhile to Reduce Class Sizes?

This chapter was written with Reut Shafir

Recent years have witnessed fierce debate in Israel on the issue of class size with many arguing that large classes impair their students. In their view, a large number of students per class makes it impossible for teachers to give each student sufficient attention, and this in turn harms students' chances of success. This view sounds reasonable and persuasive, but empirically it is not at all clear whether class size actually affects student achievements, or how. This question has generated great interest among researchers, education professionals, and lawmakers, but no unequivocal answer has yet been found. Given the extensive resources needed to reduce the number of students per class, it is important to examine the relationship between class size and scholastic achievement, class climate, and other factors that could potentially affect students' futures, such as higher education, income levels, and health status.

This chapter looks at whether reducing the number of students per class affects short- or long-term academic achievement, student-teacher relations, the educational climate in the classroom, and teachers' work satisfaction levels. The relevant Israeli and non-Israeli research literature indicates positive outcomes in the short and long term, on condition that the measure was taken in the lower primary grades; greater improvements were found when class size reduction measures targeted students from weaker socioeconomic backgrounds. Another important condition is that class size reduction be accompanied by other pedagogical measures, such as appropriate training for teaching personnel, and the adoption of pedagogical methods and curricula suited to the new environment.

Chapter 7.

Teacher Quality: Recruitment, Training, and Professionalization of the Teaching Force

Eran Tamir

There is general consensus among education researchers that teacher quality is the factor with the greatest impact on student achievements. Yet, many studies carried out in the United States show a direct relationship between teacher quality and work conditions and salaries and an inverse relationship between teacher quality and the share of disadvantaged students in the schools. Thus, the tendency of schools serving weaker populations to employ young, less-experienced, and generally less-effective teachers is stronger than that of schools serving middle- and upper-class populations. This chapter primarily addresses the accepted (but narrow) conception of teacher quality, in which quality is assessed on the basis of measurable student achievements on standardized tests, in English, science, and math. Efforts have been made in the past and are being made today to attract quality teachers to low-income periphery areas, by means of salary incentives and preferential conditions. Additionally, training programs now proliferate that try to address these programs through the recruitment, placement, and guidance of quality teachers in schools serving weaker populations. This chapter looks at the positive relationship between education policy on teacher training and professional development and teacher quality, and at how teacher training and professional development relate to status inequality.

Chapter 8.

Testing as an Education Policy Tool for Narrowing Gaps

Exit or graduation exams, such as Israel's bagrut (matriculation) exams, have developed along with modern education systems. These exams constitute formal proof that an individual has attained a specified level of education. By contrast, the past few decades have witnessed the adoption, by education systems around the world, of standardized tests, whose purpose is to monitor student achievements. This is based on the idea that schools should be accountable to their students. A major argument in favor of standardized tests is that they are an important tool for monitoring student achievements and inequalities in student achievement. Those who ascribe to this view feel that the information gathered through standardized tests allows data-based educational decision-making, advances teaching and learning on the basis of clear standards, pressures schools to improve the achievements of weaker students, and generates inter-school competition that benefit the entire system. Opponents of these tests stress their negative consequences, such as increased pressure on principals, teachers, and students, the diversion of resources to tested subjects at the expense of other subjects, a focus on preparing students for tests rather than on in-depth learning, and various forms of testing fraud. The research literature is also divided on whether standardized tests contribute substantially toward reducing inequality. At the same time, there has been a lengthy debate about the effects of exit exams. On the one hand, it is felt that they set clear learning objectives for teachers and students (especially weaker students), and serve as a binding framework for knowledge acquisition in different subject areas. On the other hand, they are also thought to have negative consequences: the limiting of curricula to tested subjects, and a focus on rote learning rather than on developing complex, critical thinking skills. Studies also show that extensive use of exit exams may increase the high school dropout rate. This chapter will provide an up-to-date review of research on standardized tests and exit exams, focusing on their advantages and disadvantages from a policy perspective oriented toward bridging educational gaps.

Chapter 9.

Pedagogy as a Tool for Reducing Educational Inequality

The main setting in which students encounter the content, skills, and values that the education system seeks to transmit to them is in the classroom. Classroom teaching and learning involve a wide variety of activities, and are characterized by different types of interactions – between teachers and students, between students, and between teachers and students and the study material. Research suggests that education policy has only a limited impact on classroom activity; teachers actually enjoy great independence in terms of how they carry out their work. When considering the issue of inequality, it is important to remember that classroom activity is often based on knowledge and skills that students bring with them, and is, therefore, affected to a considerable degree by larger, societal inequalities. This chapter reviews current knowledge about the ways in which pedagogy shapes learning opportunities within the classroom, and thereby helps perpetuate, reduce, or increase student inequalities.

Chapter 10.

The Importance of Early Childhood Education

This chapter was written with Isaac Friedman, John Gal, and Dana Vaknin

Studies show that disparities in cognitive ability between members of different socioeconomic groups begin to appear at very young ages, well before children enter the education system. Based on these and other findings, researchers have come to understand that the academic achievement gaps found among children of different socioeconomic backgrounds emerge in early childhood; some argue that certain traits necessary for academic success develop even before babies are born. The aim of this chapter is to highlight important mechanisms that may explain the academic achievement inequalities that exist among Israeli students, gaps at levels that are among the developed world's highest. The chapter includes a literature review on two types of environmental factors that affect early child development and future academic achievement: stress and sensory stimulus. The researchers argue that children growing up under adverse economic conditions are liable to suffer from chronic stress and from lack of exposure to stimulating and enriching experiences — factors that may, in turn, subject them to delayed brain and cognitive development — compared with children from stronger socioeconomic backgrounds. Thus, economic distress experienced in the critical developmental period of early childhood may depress cognitive and academic achievements.

Chapter 11.

Social Inequality in Higher Education in Israel: A Multidimensional Perspective

This chapter was written with Oded Mcdossi

Since the mid-1990s, Israel's higher education system has undergone far-reaching changes, including expansion processes, increased variety of educational institution types, and privatization. The chapter begins with a brief overview of theoretical arguments and studies on social gaps in higher education, in Israel and in other countries. It then examines inequality in the pursuit of higher education in Israel, taking a multidimensional approach and employing current data available to researchers in the field. The analysis of existing disparities focuses on the higher-education entry stage, on the economic value of higher education, and on the likelihood of completing an undergraduate degree within the standard time frame for each study major. Findings indicate that, alongside rapid growth in the student population, Israeli higher education is still characterized by large disparities between different population groups, especially between Jews and Arab Israelis.

Chapter 12.

The Gender Gap in Education

Most of the current discourse on the gender gap in education focuses on girls' inferiority in math and science whereas, in fact, girls' achievements are not inferior to boys', and, at times, they even outperform them. This is true for the entire education system, but is particularly evident in Arab education, where girls' advantage is straightforward. However, boys' inferiority in language skills, which is consistent and more severe than girls' inferiority in STEM, generates almost no interest among policy makers or education researchers.

The gender gap in education, which exists in secondary and higher education, is reflected primarily through the choice of study majors. The share of girls who study physics and computer sciences in high school is considerably lower than the share of boys. In higher education, the paucity of women studying engineering and computer sciences stands out. In contrast, the percentage of women studying biology, chemistry, the humanities, and the social sciences in high school and in higher education is higher than the percentage of men. The gender gap in fields of study in higher education is related to the gender income gap in the labor market since engineering or computer sciences, the fields preferred by men, are characterized by high financial remuneration. The findings of recent studies indicate that encouraging girls to enter technological fields may be helpful in reducing the gender income gap, though it will not eliminate it.

Chapter 13.

Conclusions and Policy Recommendations

**Hanna Ayalon, Nachum Blass, Yariv Feniger, and
Yossi Shavit**

With the general Israeli public and the country's decision-making echelon as its target, this book summarizes several decades of research on the stubborn inequality plaguing the Israeli education system, its causes, and how education policy can serve to bridge the gaps or to perpetuate and widen them. In the preceding chapters, we examined the substantial, ongoing inequalities in educational achievements among socioeconomic groups and noted that inequality levels have been dropping, particularly between Arab Israelis and Jews. We look at the principal explanations for educational inequality, from early childhood through higher education, and point to a number of family, societal, and school-based mechanisms that contribute to these disparities, alongside current data on educational inequality in Israel. We show that, even in an era when the population as a whole enjoys full access to educational frameworks from preschool through high school, and when most of the educational cost burden is shouldered by the state, there are still major differences among population groups in terms of the educational achievements of children and teens. These differences become even more significant in the transition to higher education which is voluntary and carries a substantially higher individual financial burden than earlier educational stages. The forces driving the perpetuation of social and educational disparities, at the micro level, are the socioeconomic status and cultural capital of students' families. At the macro level, the disparities are perpetuated by the distribution of resources and opportunities among population groups, and the degree of national and public commitment to bridging gaps. Research indicates that families utilize their cultural, social, and economic resources to ensure the intergenerational transmission of educational advantages. Yet these resources are not distributed equally in our society. The extensive research of the past few decades shows that families of high socioeconomic status, and those belonging to dominant

ethnic, religious, and national groups, enjoy more abundant resources that allow them to help their children get ahead, even when the available education services are theoretically equal and free of charge. Moreover, families tend to see the education system as a competitive arena, and they strive to ensure that their social status within that system is passed on to the next generation. Thus, the education system at its various levels faces strong social forces that work to perpetuate social inequality. Nevertheless, the system's ability to contend with these forces should not be discounted, and there are major examples of success in this regard.

Knowing the influence that family has in academic disparities should not diminish policy maker aspirations to bridge educational gaps; rather, it should strengthen the commitment to developing policies that target the gaps. In this concluding chapter, conclusions from earlier chapters are highlighted, and the many and varied ways in which educational policy can promote educational opportunity for the children of parents belonging to Israel's less-well-off social groups are noted.

The discussion is divided into two main perspectives: macro and micro. The macro perspective discusses decision making at the Ministry of Education level that carries with it broad implications for the system as a whole. The micro perspective refers to the decisions made by the schools themselves — principals and teachers. Obviously, this is not a clear-cut division. For example, school policy is directly affected by Ministry of Education policy; by contrast, Ministry of Education decisions are often implemented differently at different schools, often in ways that conflict with the original intentions of national-level decision makers. Nevertheless, dividing the discussion into macro and micro allows us more clearly to direct our conclusions toward the appropriate agencies and actors in the educational arena.

Conclusions for decision makers at the level of the Ministry of Education and other government ministries:

1. The importance of affirmative action in budgeting

Despite awareness of the importance of narrowing achievement disparities, the budgets currently allocated, directly, or indirectly, toward advancing low-income populations is below the minimum needed to reduce existing disparities substantially. The funding allocated for this purpose is determined mainly by what is available to the system, the degree to which the leadership is committed to social justice and their beliefs of what it entails, and the amount of political pressure exerted by various social forces. Though

we may be unable to define what would enable students from the lower socioeconomic groups to advance and narrow academic and educational gaps, we can say with some certainty that, without reasonable funding, this will be an impossible task. Thus, there is a need to fundamentally change the Israeli budgeting system and improve the method currently employed in the country's primary and middle schools. The change involves a budgeting system based on a "differential basket of services per student," and its implementation throughout the education system, including the informal frameworks that the Ministry of Education helps fund. The differential basket of services gives substantial budgetary priority to students from the lower socioeconomic groups. This basket of services is based on the current school Nurture Index, and will prioritize educational institutions that also practice social integration. In contrast to the differential standard method currently in use, which refers solely to teaching hours, this differential-basket-of-services budgeting will relate to all components of educational spending; educational services will be provided at appropriate levels that meet the needs of the stronger socioeconomic groups generally, but with preferential provisions of a level and scope that will allow students from weaker socioeconomic backgrounds to reach achievements similar to those of their stronger peers.

2. The importance of early childhood investment

Achievement and learning ability gaps between children from different socioeconomic backgrounds emerge in infancy, long before children enter the education system. Young children being raised in environments of chronic economic distress are liable to suffer from ongoing deprivation in terms of positive sensory stimulation and enriching experiences, which, in turn, may result in suboptimal development of cognitive, social, and emotional capabilities. Children who are not exposed to positive learning opportunities and sensory stimulation experience greater difficulty compensating for earlier deprivation in adulthood.

In this book, several policy options for addressing the kind of economic distress that affects the development of young children's academic abilities are proposed. Firstly, access to quality care in day care centers and family child care frameworks must be increased. Studies show that high quality early childhood education, especially for children from the lower socioeconomic groups, may dramatically improve their futures in terms of education, employment, and health. The caliber of Israeli early-childhood education may be improved by raising participation rates, reducing staff-to-child

ratios, increasing the amount of time that children spend in the relevant educational frameworks, and investing in quality training for caregivers, ensuring that they have the necessary skills and knowledge for work with this age group. Secondly, developing community-based programs for parents, focused on parents of young children from weaker socioeconomic backgrounds are recommended. These programs offer parents information about how to encourage their children's cognitive development, help them exercise their rights and gain access to housing and healthcare services, promote their integration in the labor market, and assist them in managing their family finances. Finally, in order to more comprehensively and effectively address the profound economic distress that afflicts so many Israeli children, the following is proposed: increasing the income support benefit for families with young children living in poverty while making it easier for such families to access and take-up these benefits; increasing and differentially distributing child allowances; and raising the negative income tax for parents of young children who participate in the labor force but whose incomes are low. These policy measures, which focus on the children of low-income families during a critical developmental period, could, over the long term, diminish the inequality between socioeconomic groups that emerge during early childhood.

3. Reducing class sizes — does the outcome justify the expenditure?

Reducing class sizes is a popular measure that, for the general public, appears to have major advantages. However, reducing the number of students per class is an expensive policy that necessitates hiring many more teachers, some of whom may not meet professional standards. Moreover, research has not determined that reducing class size alone will lead to improved student academic achievements. It should also be stressed that, if teaching methods that optimize smaller class sizes are not introduced, and if teachers continue to use pedagogical models from the past, the chance of improving student achievements are exceedingly low. Decisions entailing large budgetary investments – a category into which class size reduction falls – have to take into consideration consequences that go beyond the immediate academic-educational sphere. In Israel, it is actually the more affluent students who study in larger classes, while students from low-income populations already study in small classes. Thus, universal class-size reductions could potentially have a regressive effect, that is, it could end up serving those belonging to the higher socioeconomic groups. Another possible unintended outcome of

class size reduction would be diminished availability of resources for other important reforms, such as differential education-system budgeting (to benefit low-income students).

In light of these considerations, and based on the findings of studies conducted on this topic, there is justification for continued reduction of class sizes in schools serving lower-income populations, especially the Arab Israeli population, and for focusing these reductions on the primary-school level. Overall, this measure should be accompanied by pedagogical development and teacher-training modifications, to ensure that there is optimal gain from the smaller class sizes.

4. Risks associated with privatization and parental choice in education, and how to mitigate them

Parental choice and privatization of school operations are currently regarded by some as an important means of improving education systems. The popularity of this approach is based on the assumption that the fundamental principles of free market theory apply to the sphere of public education. As shown in this book, this is a simplistic assumption that does not address the human, organizational, social, or political complexities that bear on education. Research has generally demonstrated no clear advantage to private or independent schools receiving public funding over regular public schools in terms of academic achievements. Nor has it demonstrated that the system as a whole improves over time when the public “monopoly” gives way to a competitive environment combining both public and private systems. By contrast, studies have consistently linked privatization and parental choice with rising inequality and greater social segregation. Over the last few years, the Ministry of Education has been promoting a program that allows parents to choose primary schools within the public school system, in an attempt to address the phenomenon of parents establishing their own new schools. The Ministry recently updated, via a Director-General’s Circular, secondary legislation aiming to regulate the privatization and parental-choice mechanisms currently in place in Israel’s education system. In our view, this does not solve the problem; what is needed is legislation that prevents discriminatory measures, such as the lack of clear limits to parental payments, socioeconomic screening, employing teachers outside of the framework of collective labor agreements, and the like. The current situation, in which legislation lags behind practice, makes it very hard for the Ministry of Education to set clear policy, defend it in the courts, and enforce it. Schools recognized as unique schools which are allowed to

enroll students beyond their catchment area now charge exceedingly high parental payments. This is a situation that does not exist in most developed countries, and its social-inequity consequences are evident. Screening students based on tests and interviews is very common in Israel, and constitutes a mechanism by which current inequalities are perpetuated and exacerbated. Additionally, any comprehensive discussion of parental choice in education and public funding for independent schools should also address the issue of transportation – ensuring that school busing is publicly funded, so that the right to choose includes equal accessibility.

5. The price of standardized tests and the potential embodied in measurement and assessment that serve the schools and the education system

Research on the use of standardized tests in various countries has shown that these tests have many negative consequences for learning, teaching, and educational administration. Originally, the tests were thought to be useful in promoting student achievements and eliminating academic disparities, but these hopes have failed to materialize. The Meitzav comprehensive standardized exams (Hebrew acronym for Measurement of School Growth and Efficiency) have now been administered in Israel for some 15 years. Research on how these tests have affected Israel's education system has been limited, but there is sufficient evidence to suggest the same set of negative impacts found in other countries. In addition, there is no real need for such large test samples which are very costly and have pervasive negative effects on schools. It is recommended that the Meitzav exams should be conducted on a small representative sample of schools. The tests should, by design, provide Israel's educational leadership and general public with current information on student achievements in most study subjects, on other educational and social issues, and on the inequality situation in these areas, while making it possible to monitor longitudinal trends. This kind of data collection will also serve to promote the development of Israeli educational research which, at present, lags behind that of other developed countries due to the lack of comprehensive longitudinal data. At the same time, it will reduce pressures from the Ministry of Education and competition between schools with the publication of test results that Israeli schools currently experience. Teachers and principals may be better able to focus on generating real academic improvement, rather than merely strengthening achievements as measured by narrow indices.

In contrast to the national Meitzav exams, the school-administered Meitzav exams have real potential to serve as a basis for data-based decision making in the schools. At the same time, the education system must take concrete steps to ensure that teaching personnel know how to employ data in their work – via teacher training and school-based professional development frameworks. Besides the Meitzav exams, Israel has other major sources of information that are vitally needed by the education system but are not currently being properly utilized in the planning of educational policy. Some of these sources lie within the Ministry of Education itself, while others can be found in such institutions as the IDF (Israel Defense Forces), the Henrietta Szold Institute, the National Institute for Testing and Evaluation (which administers the psychometric exams), and the Hadassah Institute. We feel that the data collected from these institutions should be processed and analyzed as a means of systematically monitoring developments and fluctuations with regard to educational inequality. Obviously, any personal data obtained via these exams would remain confidential.

6. On the complexity of social integration in the schools, and the need to curb segregation

Some will argue, not unreasonably, that in Israel one can hardly imagine integration between the four “tribes” mentioned by President Rivlin in his well-known 2016 speech. Haredi (ultra-Orthodox Jews) and Religious Zionist Jews segregate themselves in their own education systems because they want to shield their children from secular cultural influences. Many Jewish and Arab Israelis oppose the idea of sending their children to mixed schools, due to mutual prejudice, hostility, and fears of assimilation. These concerns are so deep-seated that it is hard to picture wide integration between the tribes within the education system, though some early signs of integration in the [secular] state education schools are discernible. Within the education sectors there is also considerable segregation based on socioeconomic groups, at levels that are among the OECD’s highest. Within the state education system, there are socioeconomically selective schools and schools whose students come mainly from weaker backgrounds. In the state-religious education system, there is considerable segregation between students of different social classes, a situation that is particularly noticeable at the post-primary level, where selective institutions (yeshiva high schools for boys and *ulpanot* for girls) operate alongside schools that serve students whose socioeconomic group and academic achievements are relatively low. In the Arab Israeli sector, there are quite a few church-based schools and several selective institutions that cater to the Muslim middle class.

While the demand for separate education systems on the part of religious and other ideologically-oriented groups is reasonable and can be accommodated and respected, socioeconomic segregation is not legitimate, as it perpetuates socioeconomic inequality across generations. We should, therefore, encourage the various educational streams and schools to diversify their student populations at the very least on a socioeconomic basis.

7. Improved recruitment and training of teachers serving weaker populations

Although teacher quality is regarded as an important factor in addressing educational disparities, there is, at present, no broad consensus among scholars regarding either the indices by which instructional quality should be measured, or how teachers should be trained. In Israel, there has been no research on how teachers affect student scores on standardized tests, but there are data indicating that teachers with more years of experience and higher levels of education (advanced academic degrees) tend to teach in schools that serve students from advantaged social backgrounds. Study findings also suggest that teachers with higher psychometric exam scores tend to work in localities whose socioeconomic profiles are high. Thus, it appears that children from middle- and upper-class backgrounds benefit, on average, from the availability of teachers whose background data would seem to give them an advantage. Reversing this pattern necessitates state investment and incentives to ensure that well-qualified teachers are hired to work in schools serving weaker populations. In this book, we look at special training programs that recruit candidates with higher academic achievements and greater motivation for social change and social justice than the candidates who participate in traditional programs. These special programs provide new teachers with focused and professional mentoring, facilitating their integration in schools that serve low-income populations. One major area in which we recommend continued development is that of support for teachers employed in these kinds of schools, from the start of their careers. Gaining a foothold in the profession is challenging for all teachers; when new teachers are also faced with relatively low-achieving students, they need more intensive support, especially in the pedagogical sphere. Given the dearth of data and evaluation research in the field, we recommend that mapping studies be conducted, to identify the advantages and disadvantages of the existing professional development programs. We also recommend intervention studies, in which leading researchers provide schools with guidance and mentor principals, enabling them to initiate and

implement changes in a way that will benefit new teachers in their schools. Later, the findings of these studies should be leveraged for a comprehensive effort aimed at school principals across the country, focusing on how best to support, advance, and improve the work of teachers at the beginning of their careers.

8. Policy to address higher-education disparities

Broader access to higher education is not enough to close social and economic gaps; efforts are necessary at earlier stages, when the state has substantial influence as the primary operator of educational services. Nevertheless, a study that looked at inequalities in access to higher education showed that higher-education accessibility gaps between Jewish and Arab Israelis are the widest of all, and do not stem solely from cumulative educational gaps. Moreover, there is a large disparity between Jews and Arab Israelis in terms of enrollment in study programs leading to high-paying jobs; this gap is likely related to the structure of Israel's labor market and to the likelihood of young Arab Israelis successfully integrating in it. The problem of labor market integration is also relevant to Israeli Arab students who study in Jordan or in the Palestinian Authority.

Another finding of the study is that students from marginalized groups drop out of academic programs at higher rates, and may take longer than usual to complete their studies. Arab Israeli students, for example, are particularly affected. Accordingly, we feel that consideration should be given to offering *mechina* (academic preparatory) programs even to those Arab Israeli candidates who meet the admission requirements of academic institutions. Such programs would help those admitted to university to improve their Hebrew and English-language skills, and would ease their acclimation to study institutions aligned with the Jewish majority's cultural hegemony. Large differences were also found between academic institutions and study majors in terms of dropout rates and time needed to complete their degree. The major findings are exceptionally high dropout rates at teachers' colleges and in engineering studies at public colleges. These findings require in-depth attention, and policies and intervention programs should be developed in order to curtail the phenomenon.

9. Negative consequences of student tracking and the stratification of fields of study on gender, class, and ethnic disparities

The purpose of student tracking is to enable them learning according to their abilities and areas of interest. However, many studies have demonstrated that tracking increases inequality, as socially and ethnically disadvantaged students are channeled to the less rewarding programs. In Israel there have been unsuccessful attempts to moderate or eliminate tracking. Educational research indicates that efforts aimed at reducing inequality spark counter-reactions that make it hard to achieve this goal. Indeed, attempts to eliminate tracking result in less-formal kinds of separation, which, though not formally defined as tracking achieves similar results. Thus, prohibiting tracking does not prevent actual sorting of students. This being the case, proposed efforts to substantially reduce the inequality that arises from student tracking may be perceived as naïve and impractical. On the other hand, a pessimistic approach that sees no use in trying to avoid student tracking due to the practical impossibility of such avoidance, is too radical and inappropriate. In our opinion, efforts should be made to eliminate or moderate tracked frameworks while keeping in mind that alternative frameworks actually maintain tracking.

Although girls' academic achievements are currently higher than those of boys, discussions of gender inequality still tend to focus on boys' advantage over girls, with special attention to the gender gap in fields of study at the secondary and higher-education levels – males' enrollment in STEM subjects and female' in humanities and the social sciences. This aspect of gender inequality is related to the stratification of fields of study. This stratification is commonly accepted, and the high prestige of mathematics and the sciences seems almost “natural.” This trend is now being reinforced with the increasing emphasis on studying advanced mathematics and sciences in high school. The stratification of fields of study is largely a result of teaching methods and demands on students. Subjects regarded as “easy” and less demanding attract weaker students, resulting in a “magic circle” where the perceptions of a field of study is reinforced by the scholastic abilities of the students who study it, and vice versa. Although the tendency of girls to avoid studying advanced mathematics, physics, and computer sciences generates concern, the education system, education researchers and the public at large, do not seem particularly troubled about the paucity of boys engaging in higher-level humanities and social sciences studies. Similarly, although girls' mathematics and science achievements are, today, hardly

lower than those of boys, much attention is devoted to girls' inferiority in these fields. By contrast, boys' inferiority in fields that require verbal ability, as documented in numerous studies, is not perceived as a cause for concern. This is at least partly due to the low prestige of the humanities and the social sciences. An effort should be made to bridge the prestige gap between fields of study, especially at the high school level – by, among other things, encouraging outstanding students, boys and girls alike, to engage in high-level humanities and social science studies, and to set higher standards for the students who pursue such studies.

10. Academic and vocational tracks

Technical-vocational education (TVE) includes several tracks that substantially vary. The engineering track, which absorbs 50 percent of TVE students, does not differ from the scientific-academic track. The current debate over TVE relates mainly to the technological and vocational tracks, which are comparable to the non-matriculation-oriented vocational training of the past. Those who support the existence and expansion of these tracks argue that they have the potential to reduce inequality, as they absorb students unsuited to academic study and ensure them quick labor force entry. It is hard to argue with these claims. The problem with these tracks is that those who enroll in them usually belong to disadvantaged groups. Channeling these students into tracks that offer limited opportunity perpetuates existing inequalities. We recommend encouraging these students to pursue matriculation-oriented tracks, with consideration for their learning difficulties. Experience with *Mabar* (Hebrew acronym for “regular matriculation track”) and *Etgar* (“Challenge”) classes shows that even students with academic difficulties are able to contend with the matriculation exams. Despite criticisms that these classes set students up for failure, neither enabling them to earn the matriculation certificate nor providing training for the labor market, initial findings suggest that the matriculation eligibility rate among students in these classes does not significantly differ from that of students in other academic tracks.

11. Pedagogical interventions to bridge gaps in the classroom and in the school: What works?

Pedagogical methods can have a major impact on the educational opportunities of students from weaker socioeconomic backgrounds and minority groups. Among the pedagogical approaches that we reviewed,

two stand out for the existence of large, well-established bodies of research testifying to their potential for reducing academic disparities: cooperative learning and individualized (“one-on-one”) tutoring. These two approaches have proven themselves in a wide variety of studies, in different parts of the world and in different cultures, at all stages of education and in different school subjects. Both entail a relatively modest financial investment, especially compared with tech-mediated learning and after-school academic assistance programs (in extended-school-day frameworks, for instance), whose cost is very high and whose effectiveness has been shown to be low. Cooperative learning in small, heterogeneous groups could replace ability grouping, thereby reducing the inequality associated with the latter method. This pedagogical approach entails teacher training and guidance, as well as greater flexibility in organizing study hours and in selecting study materials. Optimal implementation therefore requires an attitudinal shift on the part of school principals and Ministry of Education personnel (supervisors, district managers, and the like). It is important that decision makers in the Ministry of Education recognize the advantages of the approach and work to promote it in the schools.

As part of the Ofek Hadash and Oz Le’Tmura reforms, teachers are required to engage in “individual teaching hours,” in addition to their regular classroom teaching hours. However, “individual teaching hours” are not defined by the Ministry of Education or implemented in the schools in ways specifically oriented toward bridging academic gaps. Rather, they are used for a wide variety of academic and social purposes. We recommend that the individual teaching hours be regarded as a major tool for narrowing gaps, and that they be so defined in educational policy. We also recommend that a large portion of the individual teaching hours be devoted to advancing low-achieving students via “one-on-one” methods, focusing on their knowledge gaps. Consideration should, furthermore, be given to budgeting additional individual teaching hours for schools that serve socioeconomically weak populations. Yet another approach worth mentioning here is that of culturally relevant pedagogy, based on student-teacher dialogue, cooperation, and the development of critical thinking. This approach views the culture and life experience of students and their families as a major source of empowerment and academic motivation. Culturally relevant pedagogy has been proven to advance minority students in the United States. It is important that decision makers be aware of this pedagogical approach, and that culturally relevant teaching become part of the policy discourse on educational inequality in Israel.