

# The Ethiopian National Project: Scholastic Assistance Program (SPACE) 2017 Continued Follow-up of the Students' Achievements and the Impact of the Program on their Performance

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# Abstract

## Background

The School Performance and Community Empowerment (SPACE) scholastic assistance program has been implemented by the Ethiopian National Project (ENP) since 2005 and examined in an evaluation study by Myers-JDC-Brookdale Institute every year since then. The program is offered to Ethiopian-Israeli students in junior-high and high schools, and is aimed at improving their achievements in matriculation exams by providing scholastic assistance and addressing emotional and social difficulties. Every year, between 12% and 25% of Ethiopian-Israeli twelfth-graders have participated in the program; in 2017, 17% of all Ethiopian-Israel twelfth-graders participated.

In 2016/17, there was a change in the way the program works, in light of the government policy to integrate Ethiopian-Israelis into Israeli society (the New Way), which aimed to reduce the extent of programs that are provided exclusively to Ethiopian-Israelis. Since then, the program has included non-Ethiopian students in a ratio of 80% Ethiopian-Israelis to 20% non-Ethiopians.

## Program goal

To examine the achievements of the Ethiopian-Israeli and non-Ethiopian twelfth-graders participating in the SPACE program in 2017 as reflected in their matriculation exam achievements, and to assess the impact of the program on the achievements of the Ethiopian-Israeli program participants. This is a continuation of the examination of the program impact on these students that has been conducted throughout the program years as the basis for introducing improvements into the program.

## Study method

The study was based on an analysis of data from the Ministry of Education's matriculation results files. For the non-Ethiopians, who participated in the program for the first time that year, we present raw data. For the Ethiopian-Israelis, we present multiannual data examining the changes in the gap between their achievements and those of all students in Hebrew education. We also examined the program impact by comparing the achievements of program participants with those of similar students with similar personal characteristics, at schools with similar characteristics, and with similar previous achievements.

## Main findings

Similarly to the findings from previous years – and to an even greater extent – the findings from 2016/17 show a high level of achievement among program participants and a significant impact of the program on the achievements of the Israeli-Ethiopian participants.

The matriculation results of all students participating in the program that year (Ethiopian-Israelis and non-Ethiopians) were higher than those of all students in Hebrew education. These achievements are particularly impressive when considering the relatively weak scholastic and personal background of the program participants.

Follow-up of the Ethiopian-Israeli students who participated in SPACE throughout the years shows that since 2009, and particularly in 2016 and 2017, there was an increase in the percentage of students eligible for a matriculation certificate and the percentage of those meeting university prerequisites. There was also a decline in the extent of the gaps between them and all students in Hebrew education. In 2017, the percentage of Ethiopian-Israeli program participants eligible for a matriculation certificate was higher than among all students in Hebrew education among the girls, and, for the first time, among the boys as well. It was also found that there is no longer a gap between the percentage of Ethiopian-Israeli girls eligible for matriculation certificates meeting university prerequisites and all girls in Hebrew education eligible for such certificates and that the gap for the boys has narrowed. However, the percentage of students taking a large number of study units (4 or 5), particularly in mathematics and, among the boys, in English, is still considerably lower among the Ethiopian-Israeli program participants than among all students in Hebrew education.

Analysis of the data for comparison groups of Ethiopian-Israeli students with similar characteristics who did not participate in the program indicates that the program had a considerable impact on the achievements of the Ethiopian-Israeli students at schools participating in the SPACE program for at least three consecutive years. A significant impact of the program on the students' achievements was found among students born in Ethiopia as well as in Israel (slightly greater among those born in Ethiopia) and among both boys and girls (greater among the boys).

# Executive Summary

## Introduction

The Ethiopian National Project (ENP) was established in 2004 with the goal of enabling Ethiopian-Israeli youth to fulfill their potential and increase their chances of social mobility and future integration into the labor market. The project comprises a variety of interventions, the most significant being the ENP SPACE (School Performance and Community Empowerment) scholastic assistance program. The program is offered to Ethiopian-Israeli students in junior-high and high schools, and is aimed at improving their achievements in matriculation exams by providing scholastic assistance and addressing emotional and social difficulties.

In 2016/17, there was a change in the way the program works, in light of the government policy to integrate Ethiopian-Israelis into Israeli society (the New Way) aimed at reducing the extent of programs that are provided exclusively to Ethiopian-Israelis (Prime Minister's Office, 2016).<sup>1</sup> Since then, the SPACE program has included non-Ethiopian students in a ratio of 80% Ethiopian-Israelis to 20% non-Ethiopians, in every locality where the program is implemented, and in the program as a whole. Altogether 5,814 students (grades 7-12) participated in the program in 2016/17, 4,650 of them Ethiopian-Israelis (most of whom had been in the program for several years) and 1,164 non-Ethiopians (who were participating in the program for the first time that year).

In this document, we present the achievements of participants in the SPACE program in 2016/17, as reflected in their matriculation exam results, and the impact of the program on their achievements.

## Study Design

### Goals and Questions

The study goal was to examine the scholastic achievements of the Ethiopian-Israeli and non-Ethiopian twelfth-graders participating in the SPACE program in 2017, on completion of the matriculation exams and the impact of the program on those achievements.

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<sup>1</sup> New Way, government policy to integrate Ethiopian-Israelis into Israeli society, policy document, Prime Minister's Office, September 2016: <http://www.pmo.gov.il/policyplanning/hevra/Documents/derechHA281216.pdf> (Hebrew).

The three study questions were as follows:

1. What are the characteristics of the program participants?
2. What were the students' achievements in the matriculation exams?
3. To what extent did the program impact on the students' achievements in the matriculation exams?

The measures for examining the students' achievements were:

- The percentage of students eligible for a matriculation certificate
- The percentage of students eligible for a matriculation certificate meeting university prerequisites (i.e., a certificate that includes at least 4 study units in English)
- The percentage of students who took matriculation exams that were close to eligibility (14 study units)
- The percentage of students who took at least 4 or 5 study units in English and mathematics.

## Study Method

Given the changes in the program in 2016/17, and the inclusion of non-Ethiopian students, the study was designed to take the different populations into account when examining the three study questions. For the purposes of the study, we used Ministry of Educational national data on all the students in Israel – Ethiopian-Israelis and non-Ethiopian. For the data analysis, the identity numbers of the participants who were in twelfth grade in 2017 were collected and coded by the Ministry, and were then transferred to the virtual study room where the analysis was conducted.

## Findings

### **Characteristics and Achievements of all 12th Grade SPACE Participants in 2016/17**

- 660 students who attended 65 schools
- 543 Ethiopian-Israeli (82%) and 117 non-Ethiopian students (18%)
- Program participants constituted 9% of all twelfth-graders in the same schools:
  - 2% of the non-Ethiopian students
  - 63% of the Ethiopian-Israeli students.

Analysis of the key characteristics of the twelfth-graders participating in the program revealed that the socioeconomic characteristics of the Ethiopian-Israeli participants are lower than those of the non-Ethiopian participants, but the scholastic achievements of the junior-high-school students were identical, as reflected in the national GEMS (Growth and Effectiveness Measures for Schools – *Meitzav*) tests taken in 8<sup>th</sup> grade (44 points).

In order to learn about the particular characteristics of the group of students participating in the program, we made compared the personal characteristics of the participants with those of the non-participants separately for the Ethiopian-Israelis and the non-Ethiopians. The comparison shows that **among the Ethiopian-Israelis** the scholastic achievements of the program participants were similar to those of the non-participants, but the socio-demographic characteristics of the participants were higher. Among the **non-Ethiopians**, the scholastic achievements and the socio-demographic characteristics of the program participants were lower than those of the non-participants.

### **Achievements of SPACE Participants in 2016/17**

In 2016/17, a high percentage of **all SPACE participants** (82%) were eligible for matriculation certificates, most of them (60%) were eligible for matriculation certificates that meet university prerequisites.

The percentage of **Ethiopian-Israeli** SPACE participants who were **eligible for matriculation certificates** in 2017 was higher than the percentage of the total students in Hebrew education<sup>2</sup> (81% vs. 71%, respectively) and the gap between the program participants and all students in Hebrew education in the percentage of eligibility for matriculation certificates that meet university prerequisites was small (58% vs. 62%, respectively).

The percentage of Ethiopian-Israeli participants who took a high number of units in English (4 or 5) in 2017 is similar to the percentage among all students in Hebrew education (64% vs. 67%, respectively; the difference was not found to be statistically significant in the  $\chi^2$  test). However, all students in Hebrew education mainly took 5 units in English, while the Ethiopian-Israelis participating in SPACE mainly took 4 units in English.

The percentage of Ethiopian-Israeli participants who took a high number of units in mathematics (4 or 5) in 2017 is particularly low compared with the percentage among all students in Hebrew education (12% vs. 34%, respectively;  $p < 0.0$  in the  $\chi^2$  test). This gap is reflected in both levels of the exam (4 and 5 units).

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<sup>2</sup> At schools where students take matriculation exams.

In 2017, similarly to the findings from previous years, the achievements of the Ethiopian-Israeli SPACE participants were found to be significantly higher than those of all Ethiopian-Israeli students, in regard to eligibility for both types of certificate and in the percentage of those taking a higher number of units in English and mathematics.

No statistically significant differences were found among the Ethiopian-Israeli participants between the boys and girls in the percentage of eligibility for matriculation certificates and for matriculation certificates meeting university prerequisites. Differences were found between the Ethiopian-Israeli participants and all students in Hebrew education when these differences were examined separately for the boys and the girls:

**Girls' achievements:** This year (similarly to 2013/14 to 2015/16), the percentage of girls eligible for matriculation certificates among the Ethiopian-Israeli program participants was higher than that for all girls in Hebrew education (80% vs. 71%, respectively), and the gap in the percentage of those eligible for certificates meeting university prerequisites was almost entirely eliminated (61% vs. 62%, respectively).

**Boys' achievements:** This year, for the first time, the percentage of Ethiopian-Israeli boys in the program who were eligible for matriculation certificates was higher than the percentage of all boys in Hebrew education (83% vs. 70%, respectively), and the gap in the percentage of those eligible for certificates meeting university prerequisites was small (55% vs. 61%, respectively).

### **Achievements of Ethiopian-Israeli Students Participating in the SPACE Program over Time in Comparison with Total Students in Hebrew Education**

The SPACE program was introduced in 2005, and Ethiopian-Israeli participants took matriculation exams for the first time in 2006. In 2009, the gap in the **percentage of matriculation eligibles** between program participants and total students in Hebrew education (in schools where students take matriculation exams) began to decline, and in 2016 and 2017, there was a consistent trend showing that the achievements of the participants were higher than those of all students in Hebrew education. In 2006, the gap between program participants and all students in Hebrew education in eligibility for matriculation certificates was 7 percentage points in favor of all students in Hebrew education, while the gap in 2017 was 10 percentage points **in favor** of SPACE participants, i.e., the gap was entirely eliminated and even reversed.

Over the years, there have been increases and decreases in the percentage of students **eligible for matriculation certificates that meet university prerequisites**, and until 2015, it was not possible to indicate a clear trend.

In 2016 and 2017, there was a sharp increase in the percentage of program participants eligible for such a certificate, which has reduced the gap between them and all students in Hebrew education: a gap of 16 percentage points in 2006 and a statistically insignificant gap of only 4 percentage points in 2017 – i.e., 75% of the gap had been eliminated.

The data described thus far present impressive achievements by the Ethiopian-Israeli program participants. However, these are raw data that do not take account of the initial characteristics of the participants, and they cannot therefore be attributed to the impact of the program without further analysis that includes a comparison group.

### **The Impact of the SPACE Program on Improvement in the Ethiopian-Israeli Students' Matriculation Results**

In order to assess the extent to which the high achievements of the program participants reflects the impact of the program, we isolated the program impact by means of a comparison group. Based on Ministry of Education files, each program participant was matched with Ethiopian-Israeli students (on average, three similar non-participating students to each participant – ratio 3:1) **with similar characteristics at similar schools** that did not participate in the program.<sup>3</sup> The matching was done using the Nearest Neighbor Analysis method.

This analysis enabled us to isolate the impact of the program from other factors affecting the achievements of the participants (e.g., personal characteristics, characteristics of the school, and changes in Ministry of Education general policy), and to assess what the students' achievements would have been without participation in the program. We also examined the impact of the program on students with different characteristics – boys vs. girls, Ethiopian-born vs. Israeli-born. The analysis was conducted for 318 students at 27 schools participating in the program for at least three years, i.e., students who could have received program inputs throughout their years at high school.

The students in the comparison group attended schools that were not in the SPACE program, but they may have received other scholastic assistance interventions. In light of this, the analysis takes account of the impact of SPACE beyond the impact of existing other programs.

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<sup>3</sup> Student characteristics: Sex; country of birth (Ethiopia/Israel); mother's education (none/less than elementary/elementary or junior high/high or higher). School characteristics: State/state religious; percentage of matriculation eligible meeting university prerequisites among all students in school in 2017; school development-investment index, which reflects the socio-demographic characteristics of the students in 2017. The matching was done with a ratio of 3:1. One of the analyses also takes account of the national GEMS (*Meitzav*) tests taken in 8<sup>th</sup> grade for those students who were tested.

The analyses indicate a very considerable gap in the achievements in favor of the Ethiopian-Israelis SPACE participants over students with similar characteristics, from similar schools that did not participate in the program. The analyses reveal that the program participants had a considerable advantage in the percentage of those eligible for a matriculation certificate (a gap of 21 percentage points – an advantage<sup>4</sup> of 35% over the non-participants), and a considerable advantage in the percentage of those eligible for a matriculation certificate that meets university prerequisites (a gap of 14 percentage points – an advantage of 30% over the non-participants). Additional analyses found that the program impact remained significant when controlling for the previous scholastic level, i.e., comparing students with a similar scholastic level, as reflected in the GEMS (*Meitzav*) tests taken in 8<sup>th</sup> grade. It was also found that the program participants had a considerable advantage in both types of matriculation certificates for the girls and boys, and for participants born in Ethiopian and those born in Israel.

## Summary of the Main Findings

Similarly to the findings from previous years – and to an even greater extent – the findings from 2016/17 show a high level of achievement among program participants and a significant impact of the program on the Ethiopian-Israeli participants' achievements.

The matriculation results of all SPACE participants that year (Ethiopian-Israelis and non-Ethiopians) were higher than those of all students in Hebrew education. These achievements are particularly impressive when considering the relatively weak scholastic and personal backgrounds of the program participants.

Follow-up of Ethiopian-Israel SPACE participants over the years shows that since 2009, and particularly in 2015/16 and 2016/17, there has been an increase in the percentage of Ethiopian-Israeli SPACE participants eligible for matriculation certificates and the percentage of students meeting university prerequisites among them and a decrease in the gaps between them and total students in Hebrew education. In 2016/17, the percentage of students eligible for a matriculation certificate among the Ethiopian-Israeli SPACE participants was higher than the percentage among all students in Hebrew education. This was true for the girls and, for the first time, for the boys as well. Furthermore, the gap between the program participants and all students in Hebrew education in eligibility for a matriculation certificate that meets university prerequisites has been eliminated among the girls and reduced among the boys. However, the percentage of students who took a high number of units – particularly in mathematics and among the boys in English as well – remains considerably lower among the Ethiopian-Israel

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<sup>4</sup> Advantage: The gap in percentage points divided by the percentage in the comparison group.

program participants than the total students in Hebrew education. The program should examine possible ways to assist participating students to take a higher number of units in English and mathematics in order to improve the quality of their matriculation certificate.

Analyses of the data for a comparison group of similar students who did not participate in the program indicate a substantial impact of the program on the results of Ethiopian-Israeli students at schools that have participated in the SPACE program for at least three consecutive years. A statistically significant impact of the program on the students' achievements was found for both students born in Ethiopia and those born in Israel (slightly greater for those born in Ethiopia) and for boys as well as girls (more for the boys).