



The Ethiopian National Project: Scholastic Assistance Program (SPACE) Continued Follow-up of the Program Impacts on the High-School Performance of Ethiopian-Israeli Twelfth-Graders, Matriculation 2017

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The study was initiated and funded by the Ethiopian National Project

ENP is a partnership between the Jewish Federations of North America, the Government of Israel, representatives of Ethiopian Jewish community organizations, the Jewish Agency for Israel (JAFI), the American Jewish Joint Distribution Committee in Israel (JDC-Israel) and Keren Hayesod-UIA.



1. 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, which is the focus of this report. 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 aimed at reducing the extent of programs exclusively for Ethiopian-Israelis (Prime Minister's Office).¹ Since then, the 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 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. 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 participants' achievements.

¹ 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).

2. Study Questions

1. What are the personal and school characteristics of the twelfth-graders who participated in SPACE in 2016/17, and what were their matriculation results?
2. To what extent did the program impact on the matriculation results of the Ethiopian-Israelis participants at schools where the program has been implemented for at least three consecutive years?
3. Did the program impact differently on the results of Ethiopian-Israeli boys and Ethiopian-Israeli girls, and on Ethiopian-Israelis born in Israel and those born in Ethiopia?

The measures for examining the students' achievements were:

1. The percentage of students eligible for a matriculation certificate
2. 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)
3. The percentage of students who took matriculation exams that were close to eligibility (14 study units).

3. Findings

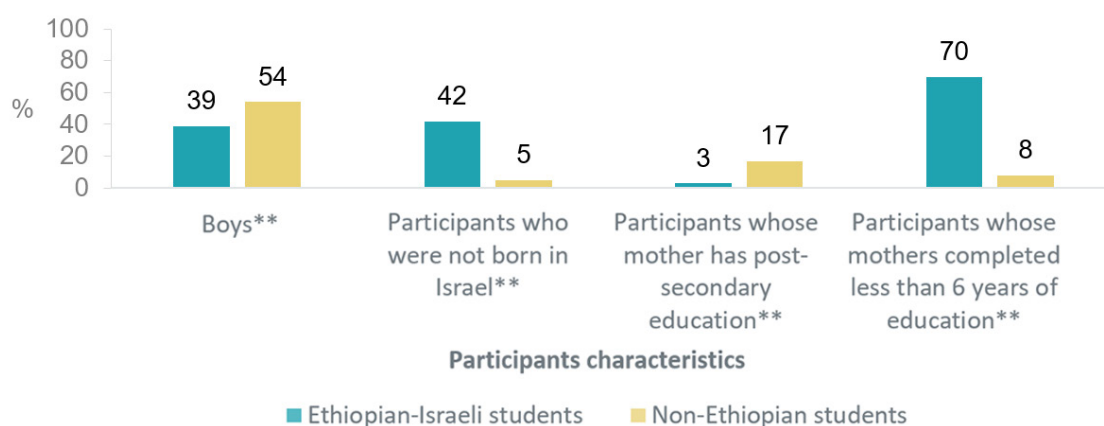
3.1 Characteristics and Achievements of all 12th Grade SPACE Participants in 2016/17

- 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 schools:
 - 2% of non-Ethiopian students
 - 63% of Ethiopian-Israeli students.

Thirty-nine percent of the Ethiopian-Israeli participants were boys and 42% of them were born in Ethiopia. Fifty-four percent of the non-Ethiopian participants were boys. The Ethiopian-Israeli participants come from families with low education. Only 3% of their mothers have post-secondary education and 70% completed less than six years of education (Figure 1).

The scholastic characteristics of the Ethiopian-Israelis and the non-Ethiopians Space participants reflected in the national GEMS (Growth and Effectiveness Measures for Schools – *Meitzav*) tests taken in 8th grade are similar - an average score of 44points.

Figure 1: Characteristics of Twelfth-Grade SPACE Participants in 2016/17 – Ethiopian-Israeli Participants vs. Non-Ethiopian Participants (Percent)



** $p < 0.01$, χ^2

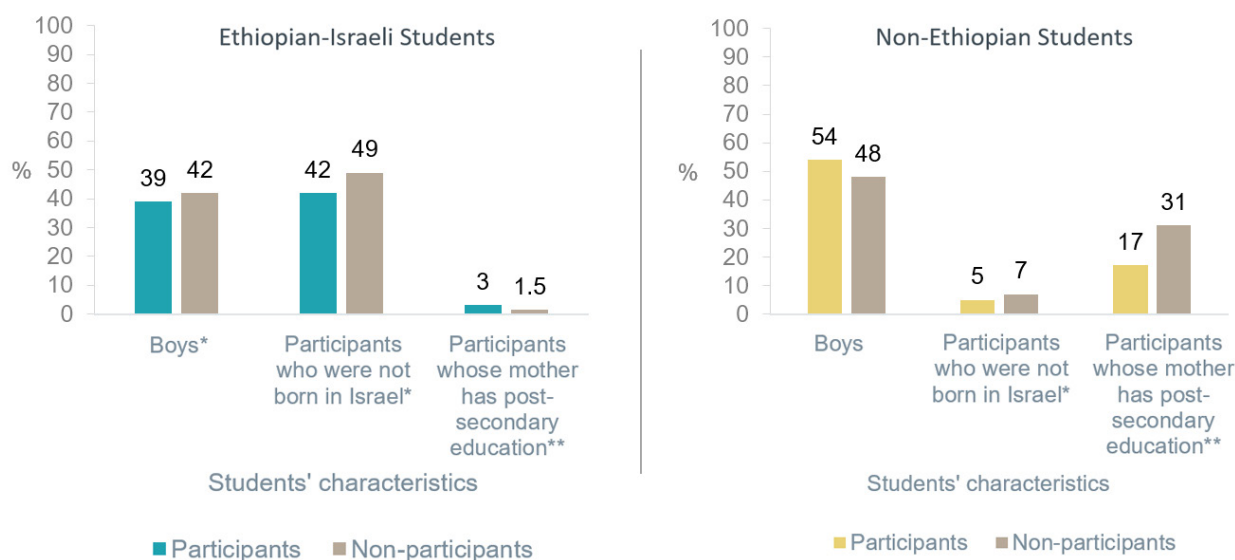
Ethiopian-Israeli students N=543, Non-Ethiopian students N=117

The characteristics of the Ethiopian-Israeli participants are in most cases similar to those of the Ethiopian-Israelis at the same schools who did not participate in the program

The non-Ethiopian participants are weaker students than the non-Ethiopian students at the same schools who did not participate in the program, as reflected in the average scores in the national GEMS tests taken in 8th grade: 44 vs. 57, respectively.

They also have weaker socio-demographic characteristics - e.g., only 17% of them have mothers with post-secondary education, compared with 31% of the students who did not participate in the program (Figure 2).

Figure 2: Characteristics of Twelfth-Grade SPACE Participants in 2016/17, Compared with Non-Participants at the Same Schools; Ethiopian-Israel Students and Non-Ethiopian Students (Percent)

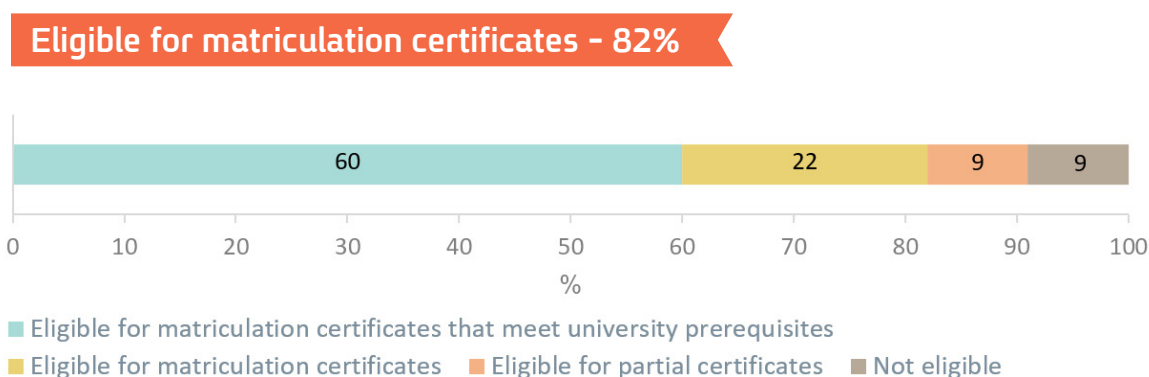


* $p < 0.05$ ** $p < 0.01$, χ^2

3.2 Achievements of SPACE Participants in 2016/17

In 2016/17, 82% of SPACE participants were **eligible for matriculation certificates**, most of them (60%) were eligible for matriculation certificates that meet university prerequisites (Figure 3).

Figure 3: Achievements of All SPACE Participants in 2016/17 (Percent)



N=660

The percentage of SPACE participants who were **eligible for matriculation certificates** was higher than the percentage of the total students in Hebrew education² who were eligible for matriculation certificates (82% vs. 71%, respectively).

The gap in the percentage of **eligibility for matriculation certificates that meet university prerequisites** was small (60% vs. 62%, respectively).

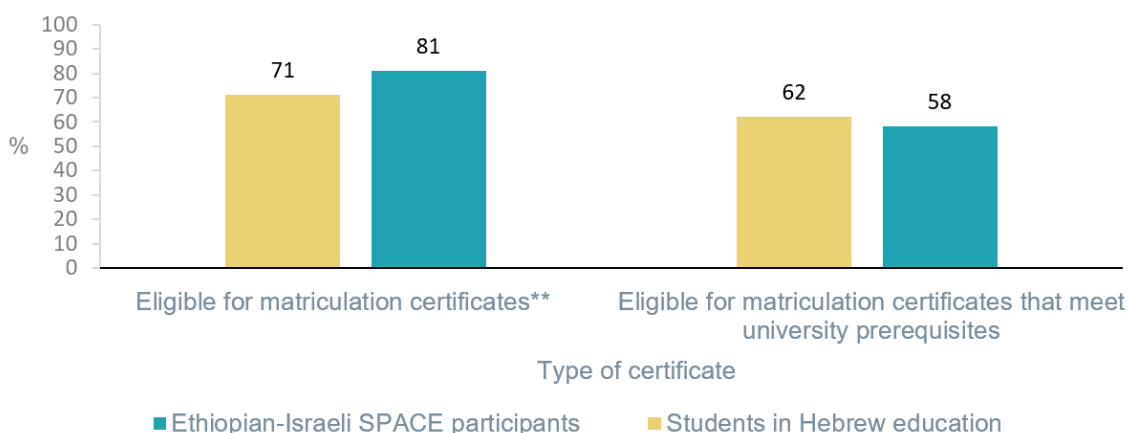
² All the analyses are for schools where the students take matriculation exams.

3.3 Achievements of Ethiopian-Israeli SPACE Participants: A Deeper Look

The percentage of students eligible for matriculation certificates among Ethiopian-Israeli program participants was higher in 2016/17 than the percentage of all students in Hebrew education³ (81% vs. 71%, respectively).

There was a small gap between program participants and all students in Hebrew education in the percentage of students eligible for a matriculation certificate that meets university prerequisites (58% vs. 62%, respectively) (Figure 4).

Figure 4: Matriculation Achievements in 2016/17: Ethiopian-Israeli SPACE Participants and Students in Hebrew Education, 2016/17 (Percent)



** $p < 0.01$, χ^2

- **Girls' achievements:** As in previous school years (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).

³ At schools where students take matriculation exams.

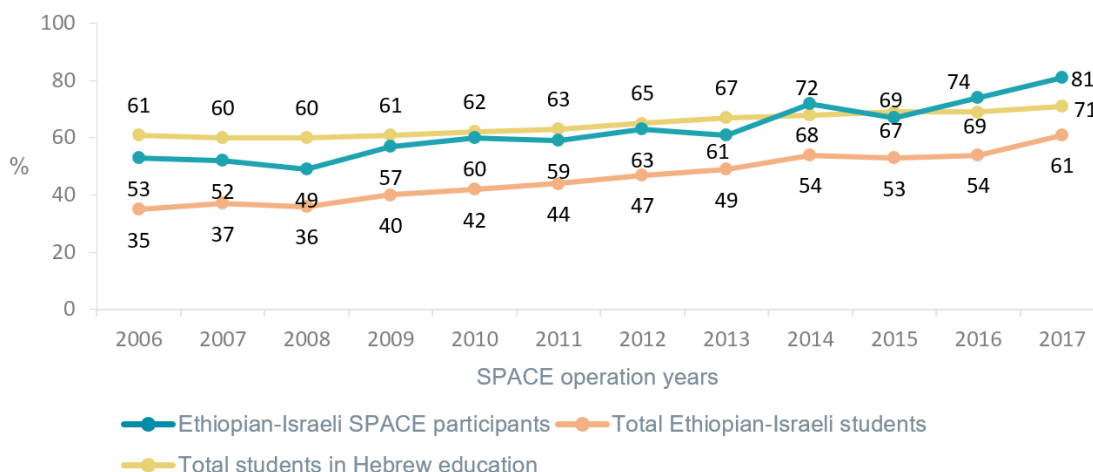
- **Boys' achievements:** This year, **for the first time**, the percentage of Ethiopian-Israeli SPACE participants eligible for matriculation certificates was higher than the percentage of all boys in Hebrew education (83% vs. 70%, respectively), and the gap in the percentage of those eligible for certificates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

Decade analysis: Scholastic Achievements of Ethiopian-Israeli Students Participating in the SPACE Program, in Comparison with Total Students in Hebrew Education and Total Ethiopian-Israeli Students in Israel – 2005/6 to 2016/17

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 since 2016 there was a consistent trend showing higher achievements of participants compared to all students in Hebrew education. A similar improvement and reduced gap, though more moderate, was also seen among all Ethiopian-Israeli students, whose overall scholastic achievements throughout the years were lower than those of program participants, and a considerable gap remained between them and total students in Hebrew education.

While 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 students in Hebrew education, the gap in 2017 was 10 percentage points **in favor** of SPACE participants, i.e., the gap was entirely eliminated (Figure 5).

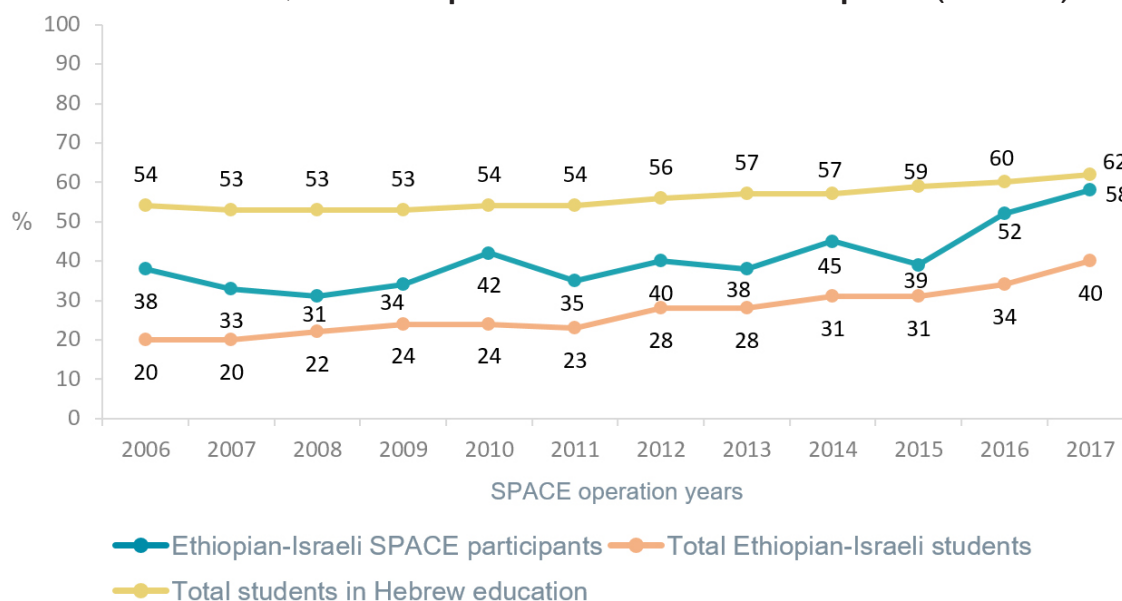
Figure 5: Percentage of Matriculation Eligibles among Twelfth-Graders[^] 2006-2017: Total Students in Hebrew Education, Total Ethiopian Israeli Students, and Ethiopian-Israeli SPACE Participants



[^]At schools where students take matriculation exams

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 students eligible for such a certificate among program participants, which has almost entirely eliminated the gap between them and all students in Hebrew education (from a gap of 16 percentage points in 2006 to only 4 percentage points in 2017 - i.e., 75% of the gap had been eliminated). A similar trend can be seen among all Ethiopian-Israeli students in Israel (part of this improvement can be attributed to the improvement among SPACE participants), but in this case too, it was more moderate (Figure 6).

Figure 6: Percentage of Students Eligible for Matriculation Certificates that Meet University Prerequisites among Twelfth-Graders[^] - 2006-1997: Total Students in Hebrew Education, Total Ethiopian-Israeli Students, and Ethiopian-Israeli SPACE Participants (Percent)



[^]At schools where students take matriculation exams

The data described thus far present impressive achievements by the Ethiopian-Israeli program participants. However, these are raw data, and it is not possible to attribute them to the impact of the program without further analysis that includes a comparison group. This analysis is presented in the following section.

3.4 Impact of SPACE on Matriculation Eligibility of Ethiopian-Israeli Students

The impact of participation in the program on the students' achievements was examined by creating a matched comparison group. This was done by matching each participant student to three **Ethiopian-Israeli students with similar characteristics at similar schools** that did not participate in the program.⁴ This was done using Nearest Neighbor Analysis, based on Ministry of Education data.

This method enabled us to isolate the impact of the program from other factors affecting the achievements of the participants (e.g., changes in Ministry of Education policy or in the composition of the participant population), 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 students at 27 schools that had participated in the program for at least three years.

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.

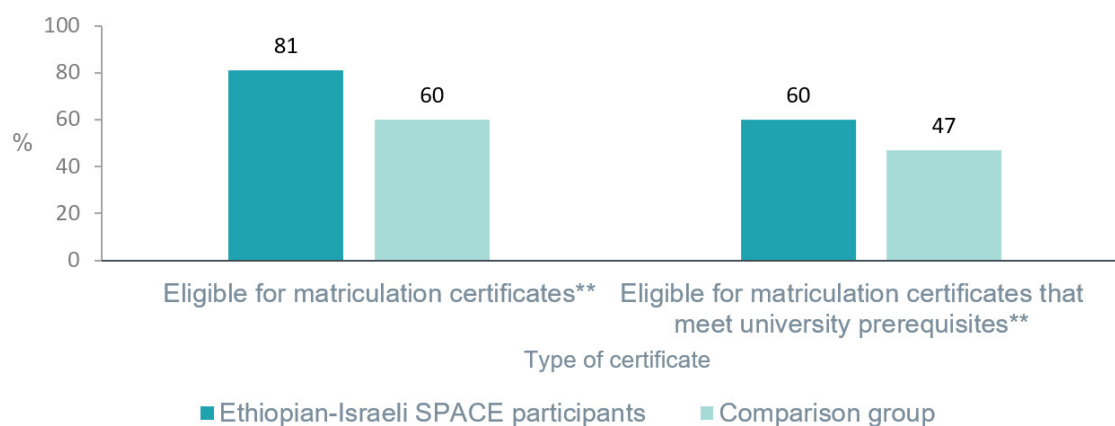
The analyses indicate a very considerable gap in the achievements in favor of the Ethiopian-Israelis SPACE participants over students with similar characteristics, from similar schools that did not participate in the program (Figures 7-10).

⁴ Student characteristics: Gender; 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. One of the analyses also takes account of the national GEMS tests taken in 8th grade for those students who were tested.

The analysis shown in Figure 7 reveals that the program participants had:

- A considerable advantage in the percentage of those eligible for a matriculation certificate (a gap of 21 percentage points)
- A considerable advantage in the percentage of those eligible for a matriculation certificate that meets university prerequisites (a gap of 14 percentage points).

Figure 7: Impact of the SPACE Program: Comparison of Ethiopian-Israeli SPACE Participants[^] and Ethiopian-Israelis with Similar Characteristics from Similar Schools that did not Participate in the Program, 2016/17 (Percent)

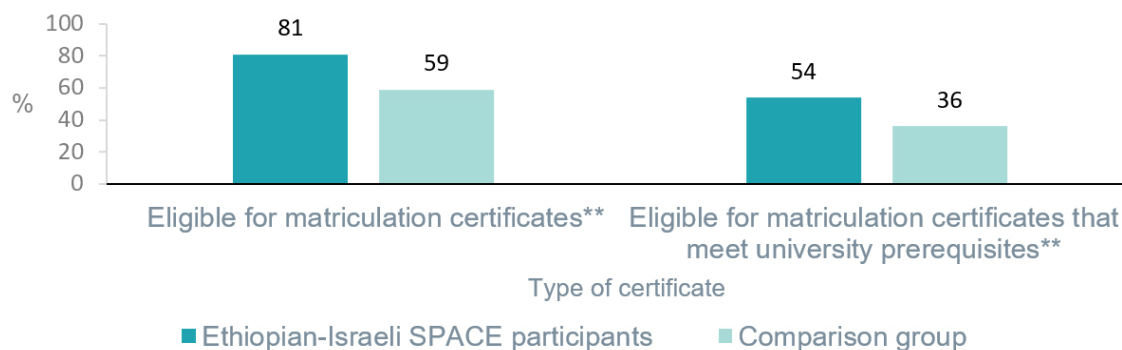


N=318 **p<0.01, paired T-test

[^]At schools that participated in the program for at least three years

The analysis shown in Figure 8 reveals shows that when controlling for the students' 8th grade scholastic level (i.e., comparing students with a similar scholastic level), the Ethiopian-Israelis participating in the program showed a considerable advantage in eligibility for a matriculation certificate (a gap of 22 percentage points) and in eligibility for a matriculation certificate meeting university prerequisites (a gap of 18 percentage point). This analysis reinforces the conclusions from the first analysis of the impact of the program on achievements. However, since the *Meitzav* tests examine only one-quarter of the student population every year, the number of students in this analysis is small and the findings should be treated with caution.

Figure 8: Impact of the SPACE Program: Comparison of Ethiopian-Israelis SPACE Participants[^] and Ethiopian-Israelis with Similar Characteristics and Similar Results in the GEMS (*Meitzav*) tests in 8th Grade at Similar Schools that did not Participate in the Program, 2016/17 (Percent)

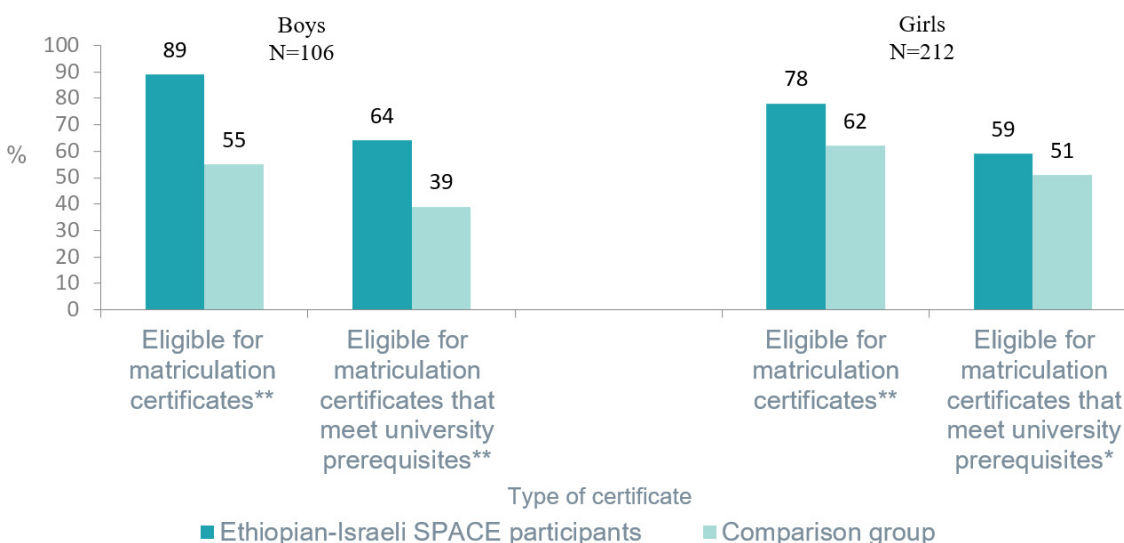


N=142 **p<0.01, paired T-test

[^]At schools that participated in the program for at least three years

The analysis shown in Figure 9 reveals that the program participants - boys and girls - have a considerable advantage with regard to both types of matriculation certificate, but this year, the advantage is particularly great for the boys.

Figure 9: Impact of the SPACE Program - Boys vs. Girls: Comparison of Ethiopian-Israeli SPACE Participants[^] and Ethiopian-Israelis with Similar Characteristics at Similar Schools that did not Participate in the Program, 2016/17 (Percent)

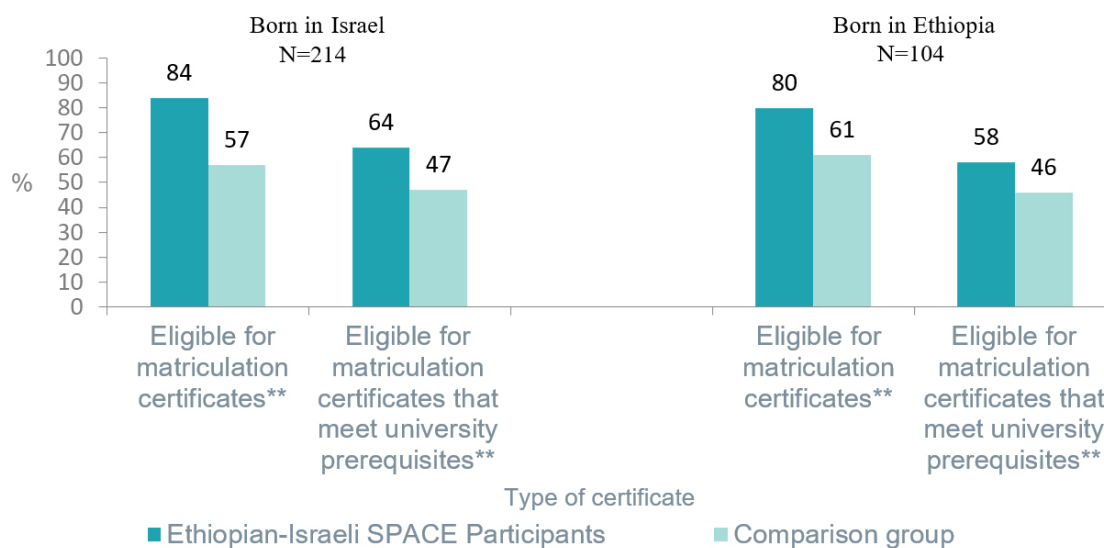


* $p < 0.05$ ** $p < 0.01$, paired T-test

[^]At schools that participated in the program for at least three years

The analysis shown in Figure 10 reveals that SPACE participants who were born in Ethiopia as well as those born in Israel have a considerable advantage over similar students who did not participate in the program, both in regard to **eligibility for matriculation certificates** and to **certificates meeting university prerequisites**. The advantage was slightly greater among those born in Ethiopia.

Figure 10: Impact of the SPACE Program - Israeli-born Ethiopian-Israelis vs. those Born in Ethiopia: Comparison of SPACE Participants[^] and Ethiopian-Israelis with Similar Characteristics at Similar Schools that did not Participate in the Program, 2016/17 (Percent)



**p<0.01, paired T-test

[^]At schools that participated in the program for at least three years

4. Summary

- 2016/17 was the first year in which non-Ethiopian students participated in the SPACE program. The matriculation results of all SPACE participants that year (Ethiopian-Israelis and non-Ethiopians) were high and similar to those of all students in Hebrew education. These achievements are particularly impressive when taking account of the scholastic and personal backgrounds of the program participants.
- Since 2009, and particularly in 2015/16 and 2016/17, there have been increases in the percentage of Ethiopian-Israeli SPACE participants eligible for matriculation certificates and the percentage of students meeting university prerequisites among them. A similar, but more moderate trend, was also found among all Ethiopian-Israeli students in Israel. Part of this improvement can be attributed to the improvement among SPACE participants.
- 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 greatly reduced.
- Analyses including 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 both for students born in Ethiopia and Israeli-born students (slightly greater for those born in Ethiopia) and for boys as well as girls (more for the boys).

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The reports and English summaries are available on the Institute website: <https://brookdale.jdc.org.il/>