[Note]

Measuring the Effects of a Short-Term Studying Abroad Program

: An Analysis of Aggregate and Individual Profiles

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1. Introduction

With the advent of evidence-based policymaking (EBPM), people in many countries have become more interested in and more concerned about how public funds are used and what outcomes their individual policies have brought about in society. Needless to say, Japan is one of those countries, and education, including its policies, is obviously one of those examples wherein the government has spent a tremendous amount of public funds for years.

Concerning the studying abroad programs offered in many schools in Japan, for example, public funds are used for scholarships and other forms of financial assistance for Japanese students to study abroad. In fact, Table 1 shows that, around 2010, the Japanese government started to increase the budget for Japanese students to study abroad; however, financial assistance for foreign students studying in Japan started to decrease in the same year.

In 2013, the Japanese government initiated its policy called "Nihon Saiko Senryaku," or "Japan Is Back" strategy, saying that, by 2020, more than 120,000 university students and the same number of high school students should study abroad in one financial/academic year. A huge amount of

	2007	2008	2009	2010	2011	2012	2013	2014
Foreign	39.7	39.6	42	34.2	31.9	30.1	29.5	26.9
Japanese	0.9	1.1	0.6	0.8	1.9	3.1	3.6	8.6
Total	40.6	40.7	42.6	35	33.8	33.2	33.1	35.5

Table 1: Changes in national budget for foreign and Japanese students (in billion yen)

Source: Yoshida (2015)¹

financial assistance has been actually provided to students, high schools, and universities so far. Unfortunately, few people know what output this policy has brought about and the enormity of the effect on Japanese society, although the resources for the policy are basically public funds or our own money. Therefore, with regard to the policies for studying abroad assistance, it is socially required now that more evidence on educational outputs be provided in a more visualized manner and be accumulated nationwide on a yearly basis.

2. Objectives

The objectives of this research are to provide evidence on educational outputs with reference to studying abroad in the forms of aggregate and individual profiles. More details will be mentioned in the Methodology section.

3. Methodology

3.1 About two important projects

This study is focused on four Japanese high school students in Chiba University's ASCENT Program, which is financially supported by a national institution called the Japan Science and Technology Agency (JST). The ASCENT Program was one of the typical high school–university transition and cooperation attempts, called the Next Generation Science and Technology Human Resource Development Project or simply the Global Science Campus (GSC), implemented by the JST. The details of the two projects, namely the GSC (a bigger framework) and ASCENT Program, are described below.

3.1.1 About GSC

According to the JST website,² the GSC was a project, including its predecessor, launched by the JST in 2013. Put simply, it provides promising high school students who aim to become future researchers in the natural or life sciences early opportunities to take university-level classes/guidance and present their research. From public and academic perspectives, it is one of many attempts to connect high school and university education. In principle, the GSC is an open-call system. During the 2013–2022 academic years, 35 universities and institutions, including Chiba University, were selected to implement their own initiatives as GSC programs. Each institution received from the JST a budget of around 25 to 30 million yen per year for up to 4 years for their initiatives.

3.1.2 About the ASCENT Program

The GSC is a bigger framework for the high school-university transition and cooperation attempts set by the JST, and Chiba University's ASCENT Program was one of the components of the GSC. On the basis of tough academic competition, the JST selected the ASCENT Program in 2020. Students were from either domestic or foreign high schools. Chiba University implemented the program with a university-wide initiative led by the faculties of Education, Engineering, Science, and Horticulture, in line with the GSC objectives mentioned above.

According to Chiba University (2024),³ the curriculum was made up of 26-

28 courses and research guidance, including research philosophy, logical analysis, debate skills, social design, research ethics, programming, and English for academic presentations. Courses such as logical analysis, debate skills, social design, and programming had both basic and advanced classes, and most basic courses were mandatory for all students.

3.2 Target students or examinees and scope

The target students or examinees of this study are four Japanese high school students who participated in the ASCENT Program in 2023–2024 and were selected in three consecutive stages based on the quality of their research plans. As the stages progressed, the contents of the program became more condensed and advanced. The third stage is only for the candidates to study abroad.

Table 2 shows the number of the students selected in each stage in four consecutive academic years. It should be noted that there were no third stages in 2020–2021 and 2021–2022 due to the resulting difficulties of the COVID-19 pandemic.

In 2023–2024, as well as in the previous academic year, the four excellent students selected in the third stage above were granted the privilege to study at Chulalongkorn University in Bangkok, Thailand. They received research supervisions on March 17–23 in 2024 and publicly presented their research on March 22. This study investigates the effects of their studying abroad experience, focusing on the changes of their mindsets with the use of an analytic tool called the Beliefs, Events and Values Inventory (BEVI), which will be described next.

Year	Applicants	1st stage	2nd stage	Actually finished	3rd stage
2020-21	40	39	16	14	n.a.
2021-22	60	42	16	14	n.a.
2022-23	71	42	15	13	4
2023-24	67	41	10	6	4

Table 2: The number of students selected in each stage

Source: Chiba University (2024, p.17, 37)

3.3 About the BEVI

The BEVI is a web-based analytic tool used all over the world to measure the effects of various forms of educational events such as classes, training courses, and study abroad programs. It is based on the psychology competency theory called the "iceberg model" developed by Professor DC McClelland of Harvard University. Nishitani (2018),⁴ a leading expert on BEVI in Japan, explained the features of the BEVI as follows:

The BEVI is a test that was first developed in the United States in the early 1990s based on psychometric standards and procedures, and has undergone seven factor analyses on tens of thousands of pieces of data, including data on Japanese students. The test has been developed by narrowing down the questions and ensuring consistency between theory and statistical data. (snip) The BEVI questions are designed to avoid expressions related to competencies and to eliminate cultural bias. (pp. 76-77.)

According to the latest BEVI manual (2024),⁵ the test has a total of 185 questions that lead to the following 17 scales as a result.

1. Negative life events	10. Emotional attunement
2. Needs closure	11. Self-awareness
3. Needs fulfillment	12. Meaning quest
4. Identity diffusion	13. Religious traditionalism
5. Basic openness	14. Gender traditionalism
6. Self-confidence	15. Sociocultural openness
7. Basic determinism	16. Ecological resonance
8. Socioemotional convergence	17. Global resonance
9. Physical resonance	

The actual practice to measure educational effects should be as follows. First, examinees take the BEVI before studying abroad, and the data acquired are then called T1, baseline data. The educational effects of studying abroad are measured by comparing T1 with T2, which is calculated again after studying abroad.

It should be noted here that this study has special values in the sense that it deals with high school students, who are much less popular subject in studies based on the BEVI than university students. More details will be provided in the Result of Research and the Challenges sections.

4. Literature Survey

This section is focused on prior research with the BEVI that surveyed educational effects of studying abroad programs in Japan and elsewhere. Before introducing particular literature, it will be necessary to define short and long term. Tamaru (2020)⁶ defined short term as less than 3 months and long term as more than 6. That is one of the common definitions shared by Japanese policymakers and educators, but there is clearly a gap between 3 and 6 months. Therefore, in this paper, the definition of short term is less than 3 months, that of mid term is longer than 4 months but less than 1 year, and that of long term is longer than 1 year.

First, Soka University $(2021)^7$ in Tokyo measured the effects of long-term studying abroad programs. Soka University's eight students were dispatched to the Middle East, Europe, and Asia, and the study proved that how they changed and the extent of the differences depended largely on the area they were dispatched to.

Nakamura (2021)⁸ pointed out that the number of studies on the educational effects of short-term studying abroad programs is very limited compared to those for mid- to long-term studying abroad programs, especially in Japan. Fortunately, however, the number of studies measuring the effects of short-term studying abroad programs using the BEVI has seen a gradual increase recently. That is apparently because most studying abroad programs for Japanese students is short term. Table 3 shows that more than 60% of the programs last less than 1 month.

Because this paper is focused on a week-long program in Thailand, the studies to be introduced at this point should be limited to those on short-term studying abroad programs. In Japan, Nagai (2018)⁹ analyzed the effects of a week-long program for Japanese students in Cambodia. Soka University (2022a, 2022b)^{10,11} also conducted a series of surveys using the BEVI for short-term programs for Japanese students as well as the measures for long-term programs mentioned earlier. According to these surveys, the effects of short-term studying abroad programs vary by areas/countries and even by the individual institutions/universities where students studied.

Year	Total	Less than a month	Ratio
2009	36,302	16,873	46.50%
2010	42,320	20,787	49.10%
2011	53,991	28,920	53.60%
2012	65,373	37,198	56.90%
2013	69,869	40,527	58.00%
2014	81,219	48,853	60.10%
2015	84,456	51,266	60.70%
2016	96,641	60,145	62.20%

Table 3: Number of Japanese students who studied abroad each year

Source: Onishi (2018)¹²

Furthermore, Uematsu-Ervasti and Kawachi (2022)¹³ measured the effects of the short-term program in the Philippines with the BEVI and found that intercultural exchanges affected the students' mindset on traditional gender views.

Outside of Japan, Grant et al. (2021)¹⁴ used BEVI to measure the effects of classes in one semester, including a 9-day trip to Vietnam, for 11 university students in the United States. According to the study, as a group, there was no numerical rise in the average value, but thorough individual reviews showed that some experienced changes related to identity and gender. This research is one of the very few examples that refer to individual changes.

With the extensive spread of COVID-19 during 2020–2022, attempts to access international student exchanges increased online. Bysouth and Ikeda (2020)¹⁵ used the BEVI to measure effects of the so-called Collaborative Online International Learning (COIL) program, in which 16 students participated. They found that participants' attitudes toward religion and self-trust changed and called the BEVI a total profiling of a human. As for

high school students, Onishi (2022)¹⁶ measured the effects of his debate course, in which 29 high school students participated, and found that there were significant changes in as many as eight scales in the BEVI (see Table 6 in Chapter 6). His debate course here was one of those in the ASCENT Program 2020–2021 at Chiba University.

5. Result of Research

As mentioned in Section 3.3, the four students stayed in Thailand for 1 week in March 2024, accompanied by the researcher/author. Although they stayed there together and all attended Chulalongkorn University, they studied in different laboratories and had different supervisors. They all cooperated with this research by taking the BEVI twice, at T1 and T2.

5.1 Aggregate profile

The BEVI's aggregate profile provides us the average group data. Chart 1 shows their average baseline data (T1) as a group right before they went to Thailand.

Accounting for the fact that 50 is the average global score on the BEVI's 17 scales, Scale 17, global resonance, in Chart 1 shows points as high as 65, which characterizes the group of the four high school students. However, it does not necessarily mean that all four girls equally had global perspectives. In fact, Scale 15, sociocultural openness, obviously corelated with Scale 17 and shows only 43, which is slightly below 50, the world average. This will be explained in detail later.

After they completed the program in Thailand and came back to Japan, the four girls took the BEVI again, and T2 shows a big difference when compared



Chart 1: Four girls' baseline data (T1)

Table 4. Scales with significant unreferices $(n-4)$	Table	4:	Scales	with	significant	differences	(n=4)
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Scale	T1	T2	Difference (T2–T1)
1 Negative life events	35	18	-17
2 Needs closure	32	17	-15
3 Needs fulfillment	24	29	5
7 Basic determinism	35	29	-6
8 Socioemotional convergence	27	44	17
10 Emotional attunement	29	16	-13
12 Meaning quest	35	45	10
14 Gender traditionalism	30	17	-13
15 Sociocultural openness	43	57	14
17 Global resonance	65	78	13

with T1. Table 4 shows the 10 particular scales with significant differences between T1 with T2. "Significant" in this case means the scales that have a difference of more than ± 5 points when comparing T1 with T2 (Grant et al., 2021; Iseminger et al., 2020).¹⁷

5.2 Individual profile

Usually, research based on the BEVI ends when one analyzes the aggregate profile because the BEVI does not allow researchers to look at individual data due to privacy restrictions. Therefore, the studies mentioned in the Literature Survey section all dealt with only aggregate data or the average of small groups in universities. As a result, they do not necessarily succeed in explaining how different each individual is or how he or she changes individually.

This study, however, is exceptional in two ways. One is, as mentioned in "2. Objectives," the fact that it deals with high school students, who are a much less popular subject in studies based on the BEVI than university students. The other is that it provides individual data because all four girls as well as their parents agreed and allowed the researcher to look at individual data purely for academic purposes. Those arrangements gave this study extraordinarily special value and resulted in new perspectives/implications on how different the four students were at the beginning of the program and how they changed at the end of the program although they were in the same program.

Those who are not familiar with the BEVI may think that this study only ends up being an individual case. In general, they are right because this study has only four samples. However, in the case of research based on the BEVI, they are not necessarily right because individual cases would have more values than regular aggregate data at this moment due to the difficulties of clearing the privacy restrictions. From here, the four girls are treated separately by calling them Students A, B, C, and D. The next four charts show T1 data for each girl. Comparing Students B and D, for example, it is evident that they were different in many scales at the beginning of the program. Student B had 52 on Scale 6, self-certitude, whereas Student D had only 22. Students A and C were also different. Student A had 88 on Scale 17, global resonance, which is extremely high, whereas Student C had 48, which is close to the world average of 50. On the other hand, however, Students A and B had 48 and 62, respectively, for Scale 1, negative life events, whereas Students C and D had only 23 and 7, respectively, which implies that the latter two have had more peaceful and happier lives so far than the former two.

What is important here is how the students changed after the program in Thailand. Table 5 shows the scales and significant differences of each student. It is remarkable that Student B changed in all 17 scales, mostly in a positive way. Student C also changed very much and showed big positive differences in Scale 15, sociocultural openness, and Scale 16, ecological resonance, which is good because Scales 15–17 are usually regarded as the three major scales in the BEVI. Student D showed the least change of all four students, but it is good that her changes in the three major scales (i.e., Scales 15–17) were positive.



Chart 2: T1 of Student A

Chart 3: T1 of Student B





Chart 4: T1 of Student C

Chart 5: T1 of Student D



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	S	tudent	А	S	tudent	В	Student		Student C Stude		tudent	D
Scale	T1	T2	Dif.	T1	T2	Dif.	T1	T2	Dif.	T1	T2	Dif.
1	48	21	-27	62	28	-34						
2	40	27	-13	64	24	-40						
3				32	57	25	20	14	-6			
4	50	76	26	65	12	-53	7	34	27			
5	24	44	20	44	50	6	42	13	-29			
6				52	73	21	57	49	-8	22	14	-8
7				34	23	-11	57	41	-16			
8	46	61	15	34	66	32	21	33	12	7	16	9
9	25	38	13	61	86	25	46	12	-34	3	15	12
10				61	34	-27	40	16	-24			
11	17	12	-5	37	75	38	89	51	-38			
12				21	74	53	82	74	-8			
13				68	38	-30						
14				56	13	-43	20	12	-8			
15	69	58	-11	32	65	33	33	49	16	40	56	16
16	49	21	-28	57	48	-9	12	33	21	12	19	7
17				63	88	25				64	88	24

Table 5: Scales with significant differences

6. Conclusion and Discussion

Judging only from the aggregate profile (Table 4), the week-long studying abroad program in Thailand affected the four Japanese high school students mostly in a favorable manner. For example, the score of Scale 14, gender traditionalism, changed from 30 to 17, which implies that the students freed themselves from obsolete ideas about gender. Additionally, the scores of Scales 15 and 17 both went up significantly, which implies that the students became more open-minded socioculturally and globally. On one hand, therefore, the research shows that the four girls developed favorably in Thailand.

Scale	T1	T2	Difference (T2–T1)
2 Needs closure	17	11	-6
3 Needs fulfillment	39	47	8
4 Identity diffusion	52	33	-19
11 Self awareness	77	82	5
12 Meaning quest	37	43	6
14 Gender traditionalism	27	18	-9
15 Sociocultural openness	55	69	14
17 Global resonance	53	66	13

Table 6: Scales with significant differences (n=29)

Source: Created by the author based on Onishi (2022, pp.21-22)

On the other hand, they could develop to the same extent even without studying in Thailand. Table 6 shows the eight particular scales with significant differences between T1 and T2, not from the survey this time but from the 2-month domestic debate course led by Onishi (2022)¹⁶ in the ASCENT Program in 2020–2021. Comparing Tables 4 and 6, it is evident that, although the length was only 1 week, studying abroad had greater effects on the high school students than the 8-times-longer domestic classes, in the sense that the former had a higher total amount of scales change and comparatively larger differences between T1 and T2 than the latter. Having said that, we can also say that the results of the two separate surveys are very similar.

In addition, a more important finding emerges when looking at the summary of individual profiles (Table 5). One will find that Students B and C are the major factors that affected the most changes in the aggregate profile mentioned earlier. The former showed significant changes in all 17 scales and the latter in 13, whereas Student D changed significantly only in six scales. Therefore, we realize that the four students did not grow equally. Now, we must discuss what the differences among these students should be and what made their growth different. Based on the researcher's observations, one difference is probably their intercultural communication skills. Student B, who showed significant changes in all 17 scales, was educated abroad and therefore had given presentations in English many times, whereas Students C and D gave presentations in English for the first time in Thailand. Looking at Scale 6, self-certitude, for Students C and D in Table 6, the scores both decreased eight points, which implies that, unfortunately, they both lost a slight amount of self-confidence in Thailand. On the contrary, Student B's score of Scale 6 went up by as many as 21 points, which implies that, by studying in Thailand, she became much more confident in herself than she was before.

On the other hand, the good news is that Student B, who has richer international experience, and Student D, who has less international experience, achieved a significant increase in the score on scale 17, "Global Resonance," to the same extent. The former changed from 63 to 88 and the latter from 64 to 88. This implies that the studying abroad experience in Thailand this time affected the two students in a favorable manner regardless of their international experience.

7. Challenges

Two factors require more thorough investigation. First, it is important to determine if the significant changes observed here will last in the long term. It is natural that students might be more motivated and inspired than usual right after coming back from abroad. At the same time, however, it is crucial that they continue to grow even after returning by maintaining their motivation and inspiration. This is because they are still young, and even if

some lost self-confidence right after they returned, they can study more and train themselves further than they did previously. That should be called the long-term effects of studying abroad, and the value of public funds should not be calculated only based on a single point. Moreover, the research should not end here, and the data (e.g., T3) should be acquired in 1 year and later on as well.

The other factor is the importance of listening to the four students' real voices by initiating interviews with them. That will obviously add qualitative data to the quantitative data obtained via the BEVI. It will also make the hypothesis more concrete, in that the difference in students' growth in this study probably resulted from individuals' intercultural communication skills, as mentioned earlier.

On the other hand, it still requires special attention to talk about individual data, even if the purpose is purely academic. The risk arises of identifying exactly who the subject is when one mentions too much about each individual's background. In this study, for example, the four girls went to Thailand with the author, whose duty was to take care of them and carefully observe them until they returned to Japan safely. The author, therefore, has extensive information about them but cannot necessarily provide it all for privacy reasons, which the readers should accept.

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Summary

This study is focused on four Japanese high school students in Chiba University's ASCENT Program, a typical high school-university transition and cooperation attempt financed publicly. The objectives are to provide evidence on educational outputs with reference to studying abroad in the forms of aggregate and individual profiles in the age of evidence-based policymaking (EBPM). Selected among 67 applicants in 2023–2024, the four students were granted the privilege to study at Chulalongkorn University in Bangkok, Thailand. They received research supervisions on March 17– 23 in 2024 and publicly presented their research on March 22. This study investigates the effects of their studying abroad experience, focusing on the changes of their mindsets with the use of an analytic tool called the Beliefs, Events and Values Inventory (BEVI). According to BEVI's aggregate profile, there were significant changes in 10 scales out of 17 scales, and, therefore, the research shows that the four girls, as a group, developed favorably in Thailand. On the other hand, BEVI's individual profile gave this research special values and resulted in new perspectives/implications on how different the four students were at the beginning of the program and how they changed at the end of the program, although they were in the same program.

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