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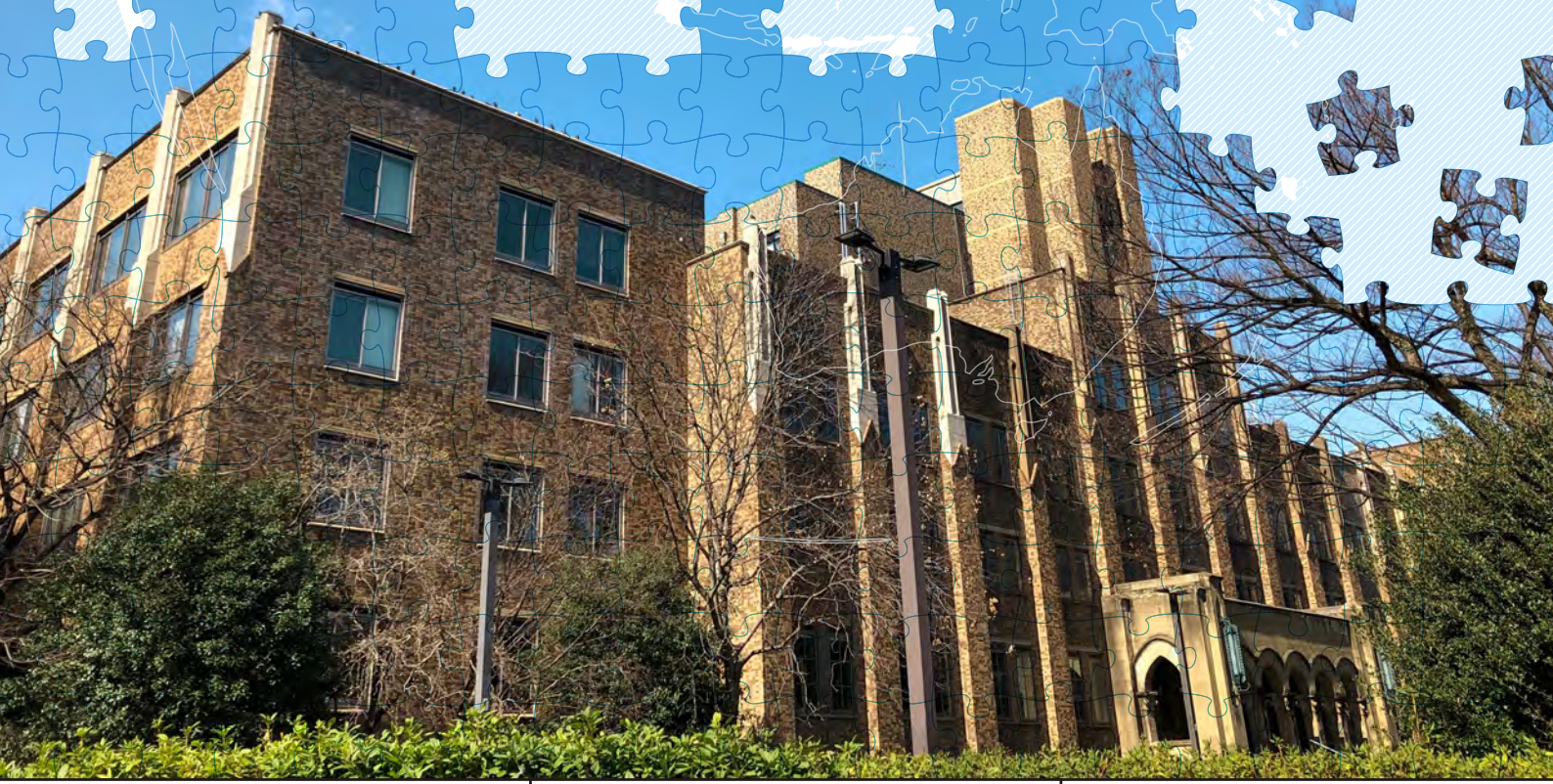
The role of institutional contexts for social inequalities in study abroad intent and participation



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Title: "The role of institutional contexts for social inequalities in study abroad intent and participation"

Abstract

We contribute to research on social inequality in educational attainment by examining the role of institutional contexts for students' study abroad (SA) intent and participation. We advance existing research in two ways. First, we better conceptualize social inequalities in SA choice by extending the usual individual-level rational choice models into a multi-level framework emphasizing the importance of context effects. Second, using unique micro-level data of students (N = 18,510, nested in 69 universities across Japan), which we supplemented with context data, we empirically examine how university-level opportunity structures shape inequalities in SA choice by students' socioeconomic status (SES), thereby also providing the first in-depth multi-level analysis of SA in Japan. Our results show that good SA opportunity structures substantially promote SA intent and participation beyond other university-level and student-level characteristics. In fact, university contexts better explain social inequalities in SA intent and participation than student-level variables. Moreover, we find that lower- and higher-SES students equally benefit from good SA opportunity structures, but mid-SES students benefit the most. In summary, our findings indicate that Japan's push towards internationalization of higher education created relevant SA opportunities – not only for students from well-off backgrounds, but also for the less affluent. These findings call for more research combining individual-level with contextual-level theories and measures to better understand the conditions under which individuals make decisions about SA.

Keywords: International student mobility; social inequality; context effects; rational choice; life course perspective; multilevel analysis

The role of institutional contexts for social inequalities in study abroad intent and participation

Steve R. Entrich, Nicolai Netz, Ryoki Matsuoka

1. Introduction

Students' socioeconomic status (SES) strongly influences SA intent and participation (for an overview, see Netz et al., 2020). Students whose parents have a higher education degree, abundant financial resources and/or high occupational status (higher-SES students) are more likely to (intend to) study abroad than lower-SES students in numerous European countries (Aerts & Van Mol, 2023; Di Pietro, 2020; Netz, 2015), the USA (Salisbury et al., 2009; Simon & Ainsworth, 2012), and Japan (Entrich & Fujihara, 2022; Kobayashi, 2018).

Drawing on theories of cultural reproduction (Bourdieu, 1984) and rational choice (Boudon, 1974; Breen & Goldthorpe, 1997; Erikson & Jonsson, 1996), previous research explained this pattern as the result of individual choices related either to SES-specific endowments with economic, social and cultural capital (e.g., Brooks & Waters, 2010; Lingo, 2019; Netz & Finger, 2016; Simon & Ainsworth, 2012; Weenink, 2014) or SES-specific cost-benefit assessments and probabilities of successfully completing stays abroad (e.g., Lörz et al., 2016; Netz et al., 2020). Additionally, scholars highlighted that the decision to study abroad is shaped by SES-specific educational biographies. For instance, higher-SES students are more likely to follow educational pathways enabling transnational experiences early in life, which ease later stays abroad (Brooks & Waters, 2010; Entrich & Fujihara, 2022; Lörz et al., 2016). More recently, scholars have directed their attention to the role of institutional contexts for students' (SES-specific) chances of studying abroad. With institutional contexts being a key component of the life course perspective (LCP), it is surprising that empirical research has rarely examined the role of such contexts for SA intent and participation.

First evidence from the USA and Europe suggests that the adoption of merit-aid programs can lead to higher SA participation (Kramer & Wu, 2021; Whatley, 2019) and that university-level features may mediate the effect of SES on SA participation (Kramer & Wu, 2021; Schnepf et al., 2022; Schnepf & Colagrossi, 2020). However, while previous research acknowledges that "student mobility uptake depends on opportunities provided at universities" (Schnepf et al., 2022, p. 2), it does not include measures of the SA opportunity structures at universities. Instead, the mentioned studies explain SES inequalities in SA participation through differences in the SES composition of the respective student bodies at different universities. Thus, existing research did not empirically examine the relevance of actual SA opportunity structures for (SES-specific) SA intent and participation. It remains unclear whether opportunity structures installed to foster SA benefit all students, help reduce socioeconomic inequalities, or exacerbate them. This is unfortunate not only for scientific reasons, but also because SA opportunity structures are society's most immediate lever to influence SA intent, participation, and corresponding social inequalities.

We address this research gap focusing on Japan. We consider Japan a well-suited test case because unlike in Europe or the USA, only some Japanese universities receive funds to develop SA opportunity structures. This statistical variation across universities allows us to examine possible impacts of differences in SA opportunity structures on individual SA intent and participation, and their influence on social inequalities. The general scarcity of research on (social inequalities in) SA in Asia further justifies our focus (Pham, 2022).

Most research on Japan explored descriptive statistics from the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) (Lassegard, 2013; Tanaka & Manning, 2018). Existing empirical studies (often in Japanese) tend to rely on small, often highly selective samples of students from specific fields of study within single universities, which mostly do not consider students' SES (Asaoka & Yano, 2009; Kato & Suzuki, 2018; Kuromiya et al., 2016;

Lassegard, 2013). The few appropriate studies indicate social selectivity of SA intent and participation among Japanese students within schools (Entrich & Fujihara, 2022) and universities (Kobayashi, 2018). However, they do not examine the influence of SA opportunity structures on social inequalities in SA intent and participation.

To narrow the outlined research gaps, we integrate context effects into the theoretical framework of (Lörz et al., 2016), which combines elements of rational choice theory (RCT) and the life course perspective (LCP). We test the resulting hypotheses employing multi-level analyses (MLA). MLA allow us to determine the relative importance of SES and other individual factors relative to contextual factors, and thus to assess the importance of SA opportunity structures for SA intent, participation, and corresponding social inequalities. Unlike earlier studies, we examine the effects of SA opportunity structures at the university level on SA intent and participation under control of various individual-level and student body features. Using a nationwide and largely unexploited dataset from Japan, which we supplement with university-level data, we address the politically charged question of whether Japan's recent push towards internationalization of higher education resulted in increasing horizontal inequalities or rather narrowed corresponding SES gaps.

2. International student mobility in Japan

Japanese students' opportunities to study abroad were limited until the late 2000s. This changed when Japanese officials acknowledged the value of fostering global human resources for revitalizing the Japanese economy after two decades of economic recession and the financial crisis of 2008/09 (Ota & Shimmi, 2019). Following a continuous decrease in the number of Japanese students seeking entire degrees abroad (2004: 82,945; 2009: 59,923, Figure 1), the government launched the "Japan Revitalization Strategy" aiming to internationalize tertiary education and enhance international student mobility.

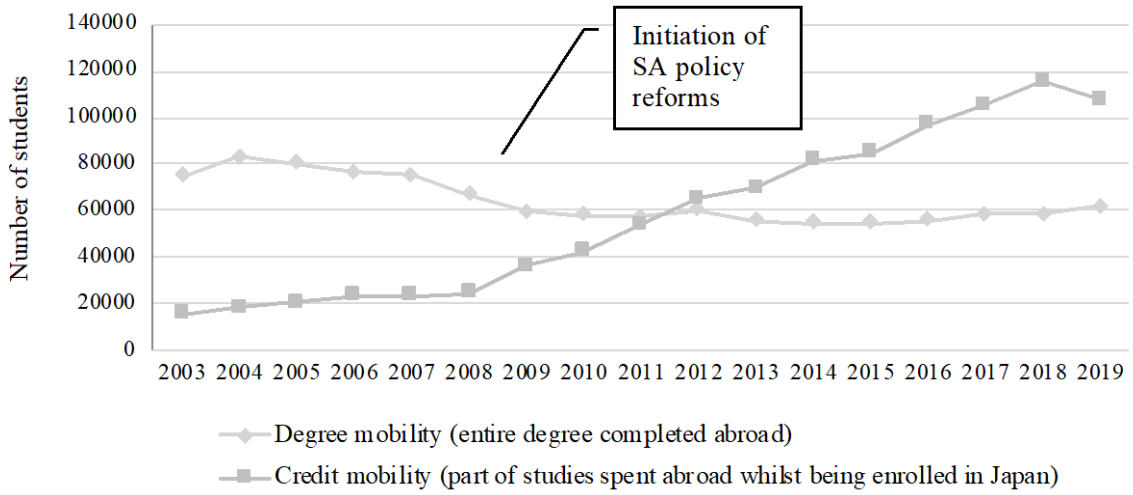
Besides increasing the national budget for SA scholarships[1], the government installed several large-scale internationalization programs supporting outbound SA (Yonezawa & Shimmi, 2015), such as the "Go Global Japan Project" (GGJP: 2012-2016, 42 universities) and the "Top Global University Project" (TGUP: 2014-2023, 37 universities). Selected universities were expected to promote the globalization of Japanese universities through a stronger internationalization of university structures, the establishment of exchange agreements with foreign universities, the instalment of SA programs, and university scholarship programs (Ota & Shimmi, 2019; Yonezawa & Shimmi, 2015).

This revitalization strategy was highly successful (Figure 1): The number of degree-mobile students stabilized and the number of students spending part of their studies abroad more than quadrupled between 2008 (24,508) and 2019 (107,346).

Importantly, the selective distribution of SA funds suggests major differences in SA opportunity structures across Japanese universities. Especially high-ranking universities with generally higher proportions of higher-SES students were most successful in securing SA funds (Yonezawa & Shimmi, 2015). Hence, lower-SES students might not only be less likely to show SA intent and participation due to their SES-specific considerations of costs, benefits, and skill-related probabilities of success, but also because they are clustered in universities with worse SA opportunity structures (Schnepf et al., 2022).

[1] The MEXT drastically increased the budget for scholarships of the Japan Student Services Organisation (JASSO) since 2009 and implemented a new program called *Tobitate! Ryūgaku Japan* (Leap for Tomorrow! Study Abroad Japan) in 2013. Whereas JASSO officially aims to "provide scholarships for achieving students who find it difficult to study due to financial reasons" (https://www.jasso.go.jp/en/about/organization/jigyougaiyou.html), the MEXT's *Tobitate!*-program is strictly merit-based (https://tobitate.mext.go.jp/about/english.html).

Figure 1 Number of Japanese university students studying abroad (2003-2019)



Data source: MEXT (2022a).

3. Theoretical considerations

Existing research tends to examine SA determinants either macro-theoretically, by focusing on push and pull factors at the national level (e.g., Li & Bray, 2007; Vögtle & Windzio, 2022), or micro-theoretically, by focusing on students' decision processes on the individual level (e.g., Lörz et al., 2016; Salisbury et al., 2009). The latter approach was made popular through research applying theories of rational choice (RCT: Boudon, 1974) to explain the frequently observed social inequalities in SA choice (Lörz et al., 2016; Netz et al., 2020).

SA decision-making can be conceptualized as a two-stage process including (1) the *formation of SA intent* and (2) *SA participation*. Both depend on how individuals value the expected *benefits* of SA in relation to its *costs*. Only if the expected benefits exceed the anticipated costs, students are likely to plan and execute SA.

Drawing on Erikson and Jonsson (1996) and Gambetta (1987), Lörz et al. (2016) extended this basic RCT model to include *performance-related factors* and *students' educational biographies* as further components framing SA decisions. Performance-related factors shape individuals' probability of successfully completing SA, which strongly depend on their competencies, such as language skills. The focus on the educational biography stresses the importance of educational experiences and decisions made in the earlier life course. Earlier experiences and decisions create path dependencies which limit or enhance the scope for decision-making in future situations (Breen & Jonsson, 2000; Gambetta, 1987).

Importantly, some scholars have argued that SA intent and participation are not only predicted by individual characteristics (Lörz et al., 2016; Schnepf et al., 2022; Van Mol & Timmerman, 2014). Instead, SA opportunity structures at the university level may equally frame SA decisions – a view which is compatible with both RCT and the LCP.

To better conceptualize the SA decision-making process and, thereby, achieve a more holistic understanding of social selectivity in SA, we therefore propose a framework comprising five explanatory components: (1) *students' educational biography*, (2) *performance-related factors*, (3) *cost considerations,* and (4) *benefit considerations* at the individual level, and (5) *SA opportunity structures* at the university level. This extension is important for better understanding how social inequality in SA decision-making (micro-level) may be enhanced or mitigated by SA opportunity structures at universities (meso-level).

3.1 Explanatory components at the individual level

3.1.1 Educational biography

The LCP suggests that SA intent and participation are shaped by SES-specific educational biographies. Because higher-SES students tend to receive more education providing valued human capital early-on in their life, they gradually build a cumulative advantage that increases their probabilities of success during later educational and professional transitions (DiPrete & Eirich, 2006).

Accordingly, higher-SES students are more likely to make familial transnational experiences early in life (e.g., holidays abroad), which affect their dispositions for later transnational experiences. Partly because of their school choice and partly because of their parents' resources, higher-SES students are more likely to get admitted to schools offering comprehensive foreign language training, spend time abroad during their school years (Entrich & Fujihara, 2022; Gerhards & Hans, 2013; Weenink, 2014), and, eventually, enter more prestigious universities with better opportunities for SA (Entrich, 2019).

Individuals that were mobile once are more likely to move again because their social and psychological costs tend to decrease with additional mobility experiences (DaVanzo, 1981). Consequently, stays abroad become more natural for higher-SES students as they grow older, which increases their self-confidence when dealing with other cultures, positively influences

foreign language skills and thus encourages future SA (Brooks & Waters, 2010; Entrich & Fujihara, 2022; Lörz et al., 2016). We therefore expect higher-SES students to be more likely to plan and complete SA because they follow more international educational pathways before entering university (**H1**).

3.1.2 Performance-related factors

Due to primary effects of social stratification, class-specific differences in socialization, resources and parental support produce SES-specific disparities in students' learning habits, skills and thus academic performance. Therefore, higher-SES students tend to show better academic performance than lower-SES students (Boudon, 1974).

According to Jonsson (1999), such performance-related factors can be distinguished into absolute and relative abilities. Absolute abilities tend to be reflected in grades, which are often a prerequisite for access to SA scholarships. Moreover, relative abilities, such as foreign language proficiency, are usually required to cope with the challenges students face abroad. Following Lörz et al. (2016) and our argumentation above, we expect that higher-SES students are more likely to plan and complete SA because they are more likely to fulfill the performance-related conditions for SA (**H2**).

3.1.3 Cost considerations

Because the financial costs associated with SA can be substantial, the economic resources of families play an important role in SA decision-making (Asaoka & Yano, 2009; Di Pietro, 2020; Lassegard, 2013; Lörz et al., 2016; Netz, 2015; Netz et al., 2020; Sugawara et al., 2018). To cover these costs, students often depend on additional income or financial support. SA scholarships substantially lower the financial burden associated with SA. However, most Japanese 'scholarships' are not grants, but student loans that significantly increase the pressure on recipients to graduate quickly. Hence, they may represent a significant barrier for SA, with lower-SES students disproportionally depending on such financial support.

The timing of SA is also important in Japan. SA-related opportunity costs increase towards the end of studies because students are typically recruited by companies in their third or fourth study year, during the so-called job-hunting season lasting from December to September ("shûshyoku-katsudô"). Students studying abroad may miss this screening process, including job fairs, aptitude and knowledge tests, and interviews (Ota & Shimmi, 2019). Due to their comparatively fewer resources, it should be more difficult for lower-SES students to accept the financial strain and time loss incurred by SA. Hence, we expect higher-SES students to be more likely to plan and complete SA because they are less likely to depend on student loans and to feel the financial burden associated with SA (**H3**).

3.1.4 Benefit considerations

SA may have various direct benefits, including improved foreign language proficiency, other intercultural competences, global awareness, and personality growth (Higuchi et al., 2022). Moreover, with tertiary education enrolment topping 80% of an age cohort in recent years (MEXT, 2022b), competition for relatively scarcer positions on globalizing labor markets intensified among highly educated individuals (Fujihara & Ishida, 2016). Consequently, the value of university degrees decreased. Applicants nowadays need to demonstrate more than just formal education. Japanese employers increasingly screen potential employees according to whether they possess intercultural competences and foreign language skills (Kobayashi, 2021; Ota & Shimmi, 2019). Graduates possessing SA experience are nowadays probably more likely to get hired for coveted positions with more attractive working conditions, because it may signal their productivity to employers besides formal educational credentials (Di Pietro, 2022; Entrich & Byun, 2021; Shimmi et al., 2017; Yokota et al., 2018).

In the face of educational expansion, RCT and cultural reproduction theories (Bourdieu, 1984; Lucas, 2001) posit that higher-SES students should seek additional qualifications, such as SA, to secure key societal positions and maintain their status (Netz & Finger, 2016; Netz &

Grüttner, 2021). Accordingly, we expect that higher-SES students are more likely to plan and complete SA because they regard SA as more beneficial to status maintenance (**H4**).

3.2 Explanatory components at the university level

While the discussion about context effects has a long tradition in sociology (Blau 1960), they are still seldom operationalized in research on (social inequalities in) SA. RCT acknowledges that institutional contexts (structure) are important for understanding educational decisions and inequalities in educational opportunities (agency) (Breen & Jonsson, 2000; Erikson & Jonsson, 1996). The LCP further stresses that individuals maintain relationships with social collectives or the socio-regional environment they are embedded in (Ditton, 2013). Hence, they assume that contexts exert independent effects beyond individual characteristics on individual choices and pathways, and that contexts may interact with individual characteristics.

Thus, whether students plan and complete SA should depend on how the structural opportunities provided by universities affect individuals' (SES-specific) cost-benefit assessments and probabilities of successfully completing stays abroad. Good SA opportunity structures should be more readily available at universities with international profiles, strong international networks, and, especially, abundant SA funds (e.g., at GGJP- and TGUP-member universities).

However, it is unclear which effects SA opportunity structures have on inequalities in SA intent and participation. LCP and RCT suggest that higher-SES students should make better use of the given SA opportunities for status maintenance purposes, thus showing a higher likelihood to plan and complete SA than lower-SES students (*cultural reproduction thesis*: **H5-1**). By contrast, the cultural mobility model (DiMaggio, 1982) suggests that once lower-SES students consider participation in SA a beneficial cultural capital, they should be equally likely to make use of SA opportunity structures. Hence, universities with good SA opportunity structures may equally encourage lower-SES students to plan SA by communicating its benefits

for their studies and careers, while also providing support to cover the associated costs. This leads us to the competing hypothesis that lower-SES students attending universities with good SA opportunity structures might be equally likely as higher-SES students to plan and complete SA (*cultural mobility thesis*: **H5-2**).

4. Empirical strategy

4.1 Methods

To test our hypotheses, we need to distinguish individual and contextual effects. Therefore, we use MLA. Context effects occur if contextual variables show significant effects on the examined dependent variables under control of relevant individual-level variables (Ditton, 2013).

To test **H1** to **H4**, we run individual-level stepwise binary logistic regressions of SA intent and participation without controlling university-level variables. This approach corresponds with most existing studies on social selectivity of SA.

To test **H5-1/2**, we estimate stepwise multi-level mixed-effects logistic regressions of SA intent and participation under control of both individual and contextual variables. We test for cross-level interaction effects to clarify whether higher-SES or lower-SES students benefit more from good SA opportunity structures.

MLA allow us to determine the relative importance of SES and other individual factors relative to contextual factors through estimating the variance partition coefficient (VPC), which reflects the proportion of variation in SA participation and intent resulting from differences between universities' SA opportunity structures. Unlike earlier studies, we can thus test the outcomes of SA policy measures at both the individual level (e.g., students receiving national scholarships) and the university level (e.g., universities receiving funds to foster SA structures).

We estimated all regressions using Stata 16. We display logit coefficients in all models and report average marginal effects (AME) in the text where possible.[2]

4.2 Data

We use unique and largely unexploited data from the 53rd wave of the Campus Life Data, a nationwide web-based annual questionnaire survey. These data were collected since 1963 by the Japanese National Federation of University Co-operative Associations. We chose the 53rd wave (2017) because it comprises an extended sample of 18,999 undergraduate students (enrolled in B.A. programs) clustered within 75 universities. The sample covers universities in all major regions, representing institutions of different types and positioned across the entire spectrum of national and international rankings.

The Campus Life Data are exceptional because they enable the examination of the association of SES with both SA intent and participation – at both the individual and university level – under control of multiple other relevant covariates.

Intending to produce unbiased estimates, we limited our analytical sample to universities with at least 100 study participants. This reduced the number of considered universities to 69 and the number of respondents to 18,501.

4.3 Variables

We examine two (individual-level) dependent variables, which are captured through dummy variables indicating whether undergraduate students expressed *SA intent* before graduating from university, and whether they had already *participated in SA* at the time of the survey. We concentrate on study-related stays abroad in formalized settings ("*ryûgaku*") to examine a neat treatment directly related to university-level SA opportunity structures. Supplementary analyses

[2] To our knowledge, the post-estimation of AME in MLA based on imputed data is not yet possible in Stata. We therefore report the MLA results as logits.

including other prominent types of SA (internships, language travel abroad) show robust results (not reported, but available upon request). In our sample, 19.2% (*N*=3,549) of students expressed SA intent. Only 4.6% (*N*=849) had participated in SA of any length.

We approximate students' *SES* based on their parents' annual household income. Studies using parental income as an SES indicator reported robust effects on SA participation under control of various covariates, including students' educational biography and performance (Entrich & Fujihara, 2022; Gerhards & Hans, 2013; Kim & Lawrence, 2021). Income and educational attainment of parents are highly correlated, wherefore household income also reflects parents' education to some degree. We recoded household income to reflect higher-SES (>10 million yen) and lower-SES groups (≤2.5 million yen). As a reference category, we use mid-SES groups (>2.5 million and up to 10 million yen).[3] A first descriptive analysis reveals substantial differences between higher- and lower-SES groups: Among higher-SES students, 22.7% expressed SA intent at the time of the survey, while 7% had studied abroad. Only 17.6% of lower-SES students expressed SA intent, and 3.9% had studied abroad.

Table 1 illustrates the explanatory variables capturing the five theoretical components meant to explain these inequalities in SA intent and participation. It shows how each theoretically grounded independent variable correlates with SA intent and participation, and compares mean values across SES groups.

[3] We omit this category in the descriptive analyses to be able to show inequalities between higher- and lower-SES groups via significance tests.

Table 1 Correlation of explanatory variables with SA intent and participation as well as means for SES groups

Explanatory component		Correlation with SA intent	Correlation with SA participation	Means and (SD) for SES groups: Higher SES	Lower SES	Sig.
Individual level						
Educational biography **(H1)**	Pre-university SA participation (vs. *none*)	0.102***	0.023**	0.043	0.016	***
	University SA participation (vs. *none*)	0.090***	n.a.	0.070	0.039	***
Performance-related factors **(H2)**	Merit-based scholarship (vs. *none*)	0.027***	0.025***	0.012	0.077	***
	Focus on studying (vs. *other focus*)	0.012	0.028***	0.390	0.395	n.s.
	Probability of success (0, *not sure* to 3, *sure*)	–0.033***	0.015*	2.064 (0.02)	1.997 (0.01)	**
Cost considerations **(H3)**	Willingness to bear SA costs (vs. *not willing*)	0.342***	0.125***	0.071	0.063	n.s.
	Student loan from JASSO (vs. *none*)	–0.028***	–0.020**	0.085	0.533	***
Benefit considerations **(H4)**	Aspired future work conditions (*sum score indicating how favorable conditions should be*)	0.084***	0.029***	3.451 (0.04)	3.626 (0.03)	***
University level						
SA opportunity structures **(H5)**	Outbound SA program (vs. *none*)	0.087***	0.097***	0.551	0.367	***
	Outbound SA rate: among top 20 (vs. *not among top 20*)	0.088***	0.078***	0.360	0.181	***
	Inbound SA rate: among top 30 (vs. *not among top 30*)	0.080***	0.100***	0.385	0.234	***
	THE ranking Japan (1, *not listed* to 4, *among top 20*)	0.090***	0.078***	2.463 (0.03)	1.914 (0.02)	***

Note: The left-hand columns show Pearson's correlations of each explanatory variable with SA intent and participation. The right-hand columns show means and standard deviations (in parentheses) for students from families with an annual household income of more than one million yen (higher SES) and from families with an annual household income of up to 250.000 yen (lower SES). The last column indicates significant differences between SES groups (Sig.).

Abbreviations: n.a.=not applicable

Significance levels: n.s.=not significant; ***p<0.001; **p<0.01; *p<0.05

Data source: Campus Life Data (2017)

We operationalize the first explanatory component (***educational biography***) using students' *pre-university SA participation* to predict SA intent and participation, and their SA participation at university to predict further SA intent. All three variables positively correlate with each other.[4] Moreover, higher-SES students are more likely to study abroad at school and university and to express SA intent than lower-SES students (supporting **H1**).

We measure ***performance-related factors*** considering (1) whether students received a *merit-based scholarship* as a proxy for absolute ability, (2) the *focus on studying* as a proxy for relative ability, which was measured through their perception of the role of studies and related activities as opposed to non-educational preferences (hobbies, clubs, work, friends), and (3) students' subjectively assessed ability to successfully complete their bachelor's degree as a proxy for their *probability of success* in completing SA (following Lörz et al., 2016). The reception of *merit-based scholarships* positively correlates with SA intent and participation. Importantly, lower-SES students are much more likely to receive such scholarships than higher-SES students, which suggests that scholarships may reduce socioeconomic inequality in SA participation (contrasting **H2**). A *focus on studying* correlates with SA participation, but not with SA intent. There are no significant differences between SES groups in this regard (contrasting **H2**). Students' *probability of success* positively correlates with SA participation, but negatively correlates with SA intent. The latter result may seem counterintuitive, but while the proportion of students believing they will successfully complete a degree increases with each study year, SA intent declines (42% of first-year students show SA intent, compared to only 9.8% of fourth-year students), likely because most students preparing for job-hunting are in their third study year (when 75% of students in our sample report job-hunting plans). In line with our assumptions, higher-SES students consider their probabilities of success more optimistically (supporting **H2**).

[4] We only report correlations/effects that are significant at least at the 95 percent level in the text.

We operationalize ***cost considerations*** considering (1) students' *willingness to bear SA costs* by prioritizing saving money for SA and (2) the reception of a *student loan from JASSO* as an indicator of a tense financial situation independent of performance. Independent of SES, students *willing to bear SA costs* are more likely to report SA intent and participation (contradicting **H3**). The incidence of SA intent and participation is substantially reduced for students receiving *student loans from JASSO*. Lower-SES students depend much more on student loans (53.3% vs. 8.5% of higher-SES students) and thus have to carefully weigh whether SA is an option considering future debt from loan repayments (supporting **H3**).

To assess students' ***benefit considerations***, we computed a sum score of several items describing students' *aspired future job conditions*. This variable indicates whether students favor more traditional employment relationships with long working hours, little vacation and strict hierarchies, or more independent, flexible, family-friendly and mobile working styles with similar or higher levels of financial security. Students aspiring towards better job conditions are more likely to plan and complete SA, with lower-SES students being more likely to aspire towards more advantageous job conditions (contradicting **H4**). This resonates with the notion that lower-SES students become culturally mobile through SA participation.

Finally, we operationalize ***SA opportunity structures*** using four indicators: (1) a variable indicating whether the attended university received government funds to promote SA via one or both of MEXT's top programs, the GGJP and TGUP (*outbound SA program*); (2) a variable indicating whether the share of students studying abroad is among the top 20 highest rates across all Japanese universities (*outbound SA rate*); (3) a variable indicating whether the share of international students studying at a university is among the top 30 highest rates across all Japanese universities (*inbound SA rate*); (4) the university's position in the 2017 Times Higher Education ranking for Japan (*THE ranking Japan*), which reflects extensive institutional exchange channels for students (Yonezawa & Shimmi, 2015). All four indicators positively

correlate with SA intent and participation, with higher-SES students being more likely to attend universities with good SA opportunity structures than lower-SES students judging by all four indicators (indicating more support for **H5-1**).

Following Kobayashi (2018) and Schnepf et al. (2022), we control for several other covariates associated with SA intent and participation at the individual and the university levels to obtain unbiased effects. The individual-level controls include *gender*, timing of SA periods (*study year*), and *field of study*. The university-level controls include the *mean absolute ability* of universities' student population, measured based on the mean *hensachi* score necessary to achieve entrance in 2017, *tuition fees* as an indicator for the general financial burden caused by university attendance, and *type of university*. Following Yonezawa and Shimmi (2015), the latter variable captures four major categories: *national* (most common type of public university), *local public* (run by city or prefectural governments), *private* (most common university type), and *former imperial university* (a former flagship type of national university; for details on all variables see Table 6 in the supplementary information).

4.4 Missing data

Only four variables contain missing values (Table 6). *Parental income*, our measure of *SES*, contains most missing values (*N*=5,437, 29.4%), followed by the *willingness to bear SA costs* (*N*=3,545, 19.2%), *probability of success* (*N*=256, 1.4%), and *focus on studying* (*N*=225, 1.2%).

To avoid a reduced analytic sample and biased estimates, we multiply imputed missing values (Grund et al., 2018). We imputed 30 datasets including all covariates, the outcome variables, and auxiliary variables (parental occupation, university admission method, and region) in the predictor models using the routine for multiple imputation by chained equations (MICE) in STATA 16.

5. Empirical results

Tables 2 and 3 show the results of stepwise logistic regressions of students' SA intent (SAI-Log1 to SAI-Log5) and SA participation during their undergraduate studies (SA-Log1 to SA-Log5).

Table 2 Binary logistic regressions of *study abroad intent* (SAI) of Japanese university students (logits)

	SAI-Log1			SAI-Log2			SAI-Log3			SAI-Log4			SAI-Log5		
Individual level (*N*=18,510)	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE
Intercept	-.688	***	.054	-.664	***	.055	-.723	***	.071	-.997	***	.077	-1.320	***	.084
SES															
Higher-SES (vs. *mid-SES*)	.215	***	.055	.176	**	.056	.177	**	.060	.191	**	.063	.194	**	.063
Lower-SES (vs. *mid-SES*)	-.124	***	.050	-.103	*	.051	-.127	*	.049	-.097	+	.052	-.108	*	.052
***Educational biography* (H1)**															
Pre-university SA participation (vs. *none*)				1.087	***	.102	1.080	***	.102	.993	***	.110	.988	***	.110
University SA participation (vs. *none*)				1.215	***	.079	1.200	***	.080	.870	***	.088	.866	***	.089
***Performance-related factors* (H2)**															
Merit-based scholarship (vs. *none*)							.416	***	.102	.403	***	.108	.384	***	.108
Focus on studying (vs. *other focus*)							.193	***	.041	.102	*	.043	.098	*	.043
Probability of success (0, *not sure* to 3, *sure*)							-.002		.023	.011		.025	.014		.025
***Cost considerations* (H3)**															
Willingness to bear SA costs (vs. *not willing*)										2.316	***	.080	2.290	***	.080
Student loan from JASSO (vs. *none*)										-.066		.048	-.066		.048
***Benefit considerations* (H4)**															
Aspired favorable work conditions (*sum score*)													.097	***	.010
Controls															
Female (vs. *male*)	.232	***	.039	.180	***	.040	.179	***	.040	.119	**	.043	.088	*	.043
Study year (from 1 to 6)	-.426	***	.018	-.467	***	.018	-.477	***	.019	-.404	***	.020	-.412	***	.020
Field of study: Liberal Arts (vs. *Science*)	.147	***	.042	.118	**	.043	.135	**	.043	.049		.046	.044		.046
Field of study: Medicine (vs. *Science*)	-.165	**	.061	.175	**	.061	.149	*	.062	.196	**	.064	.230	***	.065
Pseudo R^2 (McFadden)	.041			.059			.060			.129			.134		

Significance levels: n.s.=not significant; ***p< 0.001; **p< 0.01; *p<0.05
Data source: Campus Life Data (2017)

Table 3 Binary logistic regressions of *study abroad participation* (SAP) of Japanese university students (logits)

	SAP-Log1			SAP-Log2			SAP-Log3			SAP-Log4			SAP-Log5		
Individual level (*N*=18,510)	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE
Intercept	-5.100	***	.128	-5.127	***	.128	-5.249	***	.170	-5.717	***	.182	-5.808	***	.192
SES															
Higher-SES (vs. *mid-SES*)	.358	***	.097	.349	***	.097	.352	***	.098	.344	***	.101	.345	***	.101
Lower-SES (vs. *mid-SES*)	-.242	**	.094	-.238	*	.094	-.274	**	.101	-.229	**	.105	-.231	*	.105
Educational biography **(H1)**															
Pre-university SA participation (vs. *none*)				.628	*	.184	.621	**	.188	.438	*	.193	.431	*	.193
Performance-related factors **(H2)**															
Merit-based scholarship (vs. *none*)							.616	***	.167	.606	***	.170	.595	***	.170
Focus on studying (vs. *other focus*)							.172	*	.075	.088		.076	.087		.076
Probability of success (0, *not sure* to 3, *sure*)							.028		.054	.052		.054	.052		.053
Cost considerations **(H3)**															
Willingness to bear SA costs (vs. *not willing*)										1.796	***	.108	1.787	***	.108
Student loan from JASSO (vs. *none*)										-.094		.087	-.095		.087
Benefit considerations **(H4)**															
Aspired favorable work conditions (*sum score*)													.028		.018
Controls															
Female (vs. *male*)	.632	***	.076	.623	***	.076	.624	***	.077	.580	***	.078	.569	***	.078
Study year (from 1 to 6)	.557	***	.032	.562	***	.032	.550	***	.033	.661	***	.035	.659	***	.035
Field of study: Liberal Arts (vs. *Science*)	.437	***	.080	.434	***	.080	.462	***	.083	.415	***	.085	.414	***	.085
Field of study: Medicine (vs. *Science*)	-.415	**	.121	-.426	***	.121	-.443	***	.124	-.477	***	.126	-.466	***	.127
Pseudo R^2 (McFadden)	.069			.071			.074			.111			.111		

Significance levels: n.s.=not significant; ***p<0.001; **p<0.01; *p<0.05
Data source: Campus Life Data (2017)

Model SAI-Log1 confirms significant differences in SA intent between SES groups even under control of gender (higher likelihood among females), study year (decreasing likelihood with rising study year), and field of study (higher likelihood in the liberal arts). In reference to mid-SES students, the logits of higher-SES students to express SA intent are .225 (corresponding to an AME of 3.6%) and the logits of lower-SES students are -.122 (AME: -1.8%).

Adding students' *educational biography* (SAI-Log2) considerably decreases the strength and significance level of the relationship between SES and SA intent. Both past participation in SA at school and at university increase students' likelihood to express SA intent, supporting the thesis of a cumulative causation of spatial mobility (**H1**).

Performance-related factors (SAI-Log3) do not seem to additionally mediate the effect of SES on SA intent, although the coefficients for received scholarships and the focus on studying are highly significant. The probability of success does not significantly affect SA intent.

Cost considerations (SAI-Log4) are important for SA intent. Students willing to actively save money for SA are much more likely to express SA intent. However, we find no notable effect of receiving a student loan from JASSO.

Benefit considerations (SAI-Log5) exert a strong effect on SA intent. Students striving for more favorable working conditions from their future workplace are more likely to plan SA.

Interestingly, neither the introduction of performance-related factors (**H2**), nor of cost (**H3**) and benefit considerations (**H4**) further decrease the SES gap in SA intent. The added variables gradually increase the reliability of our model (R^2 increases from .041 to .134), but only the variables capturing SES-specific educational biographies significantly mediate the effect of SES on SA intent (**H1**).

The analysis of SA participation (Table 3) reveals similar effects of SES and most explanatory variables. In model SAP-Log1, the logits of expressing SA participation are .358 higher for higher-SES students (AME: 1.8%) and -.242 lower for lower-SES students (AME: -0.9%) compared to mid-SES students. The SES effect is robust across models SAP-Log2 to SAP-Log5. Although individual-level factors related to students' educational biography, performance, and cost considerations show similar effects on SA participation as on SA intent, the influence of SES on SA participation is not significantly reduced (contradicting **H1** to **H4**).

To examine contextual factors beyond individual characteristics, Table 4 presents the first set of multi-level mixed-effects logistic regressions of SA intent. The null model SAI-MLA0, which only measures the random effects of universities, shows that only 3.4% of the variance in SA intent stems from the differences between universities in Japan. This indicates that the role of universities for promoting SA intent is limited. Whether universities matter for inequalities in SA intent is examined in the following models.

Model SAI-MLA1 includes the individual-level variables from model SAI-Log5, while accounting for the clustering of students in different universities. Comparing both models shows that the SES gap in SA intent is significantly reduced, with the differences between the SES groups now being insignificant. Thus, context variables explain the observed inequalities in SA intent more than individual-level variables.

Model SAI-MLA2 adds variables capturing universities' *SA opportunity structures*. A higher position in the THE ranking positively associates with SA intent. Other variables capturing SA opportunity structures, however, do not affect SA intent or notably change the effects of SES on SA intent.

To finally clarify whether higher- or lower-SES students benefit more from good SA opportunity structures (**H5-1/2**), model SAI-MLA3 shows cross-level interactions between SES and SA program availability. We find that lower-SES students who attend universities with

funding from major SA programs are equally likely (if the university is a member of both programs) or even more likely (member of one program) to express SA intent compared to mid-SES students. Supplementary analyses (available upon request) confirm that the gap in SA intent between higher- and lower-SES students enrolled in universities with a major SA program is insignificant (supporting **H5-2**). The added variables decrease the VPC from 3.4% (SAI-MLA0) to 0.6% (SAI-MLA3), indicating that about 83% of the variance explained by university variation is accounted for in our model. The variables reflecting SA opportunity structures account for about 55% of the VPC.

Table 5 shows MLA results for SA participation. In contrast to the null model for SA intent, the VPC for model SAP-MLA0 shows that 14% of the variance in SA participation (compared to only 3.4% for SA intent) stems from differences between universities. The models SAP-MLA1 to SAP-MLA3 yield broadly similar effects as the MLA for SA intent – with one major difference: The effects of SES on SA participation remain highly significant. The clustering of students in universities decreases the effect of SES (SAP-MLA1), as do the variables capturing SA opportunity structures and university-level control variables (SAP-MLA2) – but to a slightly lesser degree as in the case of SA intent.

Importantly, model SAP-MLA2 shows that students clustered in universities with good SA opportunity structures are more likely to study abroad, especially if they attend universities funded through both the GGJP and TGUP. Overall, the included university-level variables decrease the VPC from 14% (SAP-MLA0) to 4% (SAP-MLA2), and thus explain about 71% of the difference in SA participation between universities. The variables reflecting SA opportunity structures account for about 31% of the VPC.

Finally, SAP-MLA3 includes cross-level interactions to clarify how SA opportunity structures affect SES-specific SA participation. Compared to mid-SES students, both lower- and higher-SES students are less likely to study abroad if they attend universities partaking in

SA programs. This finding suggests that mid-SES students benefit most from good SA opportunity structures. Supplementary analyses (available upon request) show that lower-SES students attending universities with good SA opportunity structures (i.e., having a major SA program) are equally likely as higher-SES students to complete SA (supporting **H5-2**).

Table 4 Multi-level mixed-effects logistic regressions of *study abroad intent* (SAI) of Japanese university students (logits)

Individual level (*N*=18,510)	**SAI-MLA0**			**SAI-MLA1**			**SAI-MLA2**			**SAI-MLA3**		
	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE
SES												
Higher-SES (vs. *mid-SES*)				.097		.056	.087		.056	.062		.083
Lower-SES (vs. *mid-SES*)				-.091		.049	-.082		.049	-.162	*	.065
Educational biography **(H1)**												
Pre-university SA participation (vs. *none*)				.993	***	.110	.987	***	.110	.989	***	.110
University SA participation (vs. *none*)				.806	***	.090	.790	***	.090	.794	***	.090
Performance-related factors **(H2)**												
Merit-based scholarship (vs. *none*)				.306	**	.109	.282	*	.109	.274	*	.110
Focus on studying (vs. *other focus*)				.116	**	.043	.120	**	.043	.117	**	.043
Probability of success (0, *not sure* to 3, *sure*)				-.024		.024	-.027		.024	-.027		.024
Cost considerations **(H3)**												
Willingness to bear SA costs (vs. *not willing*)				2.309	***	.072	2.295	***	.071	2.294	***	.072
Student loan from JASSO (vs. *none*)				-.040		.048	-.027		.048	-.026		.048
Benefit considerations **(H4)**												
Aspired favorable work conditions (*sum score*)				.094	***	.010	.095	***	.010	.095	***	.010
Controls												
Female (vs. *male*)				.151	***	.044	.168	***	.044	.166	***	.044
Study year (from 1 to 6)				-.419	***	.020	-.420	***	.020	-.420	***	.020
Field of study: Liberal Arts (vs. *Science*)				.085		.052	.085		.051	.088		.051
Field of study: Medicine (vs. *Science*)				.253	***	.069	.252	***	.068	.252	***	.068

Table 4 *continued*

University level (*N*=69)												
***SA opportunity structures* (H5)**												
Outbound SA program: TGUP & GGJP (vs. *none*)							.102		.132	.043		.143
Outbound SA program: TGUP or GGJP (vs. *none*)							.079		.096	-.015		.108
Outbound SA rate: among top 20 (vs. *not*)							.064		.111	.078		.112
Inbound SA rate: among top 30 (vs. *not*)							-.180		.135	-.180		.135
THE ranking Japan (1, *not listed* to 4, *among top 20*)							.100	**	.074	.100	**	.033
Controls												
Mean absolute ability (*hensachi score*)							.014	*	.014	.014	*	.006
Tuition fees (*highest first semester fees*)							-.000		.000	-.000		.000
University type: National (vs. *former imperial*)							-.102		.124	-.107		.124
University type: Local public (vs. *former imperial*)							.264		.173	-.234		.174
University type: Private (vs. *former imperial*)							.099		.135	-.109		.136
Cross-Level Interactions (H5-1/2)												
Higher-SES group x Outbound SA program: both										.079		.138
Higher-SES group x Outbound SA program: one										.033		.128
Lower-SES group x Outbound SA program: both										.072		.128
Lower-SES group x Outbound SA program: one										.263	*	.114
Random Effects												
Intercept	-1.488	***	.046	-1.317	***	.092	-2.116	***	.410	-2.092	***	.411
Standard Deviation Intercept	.341		.038	.303		.037	.145		.033	.146		.032
VPC (ICC)		.034			.027			.006			.006	

Significance levels: n.s.=not significant; ***p<0.001; **p<0.01; *p<0.05
Data source: Campus Life Data (2017)

Table 5 Multi-level mixed-effects logistic regressions of *study abroad participation* (SAP) of Japanese university students (logits)

	SAP-MLA0			SAP-MLA1			SAP-MLA2			SAP-MLA3		
Individual level (*N*=18,510)	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE	B	P>|z|	SE
SES												
Higher-SES (vs. *mid-SES*)				.300	***	.094	.286	**	.094	.567	***	.161
Lower-SES (vs. *mid-SES*)				-.167		.091	-.155		.091	.153		.139
Educational biography **(H1)**												
Pre-university SA participation (vs. *none*)				.391	*	.195	.385	*	.195	.382		.196
Performance-related factors **(H2)**												
Merit-based scholarship (vs. *none*)				.409	*	.175	.383	***	.175	.414	*	.175
Focus on studying (vs. *other focus*)				.123		.077	.131		.077	.135		.077
Probability of success (0, *not sure* to 3, *sure*)				-.021		.053	-.032		.052	-.033		.052
Cost considerations **(H3)**												
Willingness to bear SA costs (vs. *not willing*)				1.685	***	.106	1.680	***	.105	1.684	***	.106
Student loan from JASSO (vs. *none*)				-.079		.088	-.063		.088	-.067		.088
Benefit considerations **(H4)**												
Aspired favorable work conditions (*sum score*)				.024		.018	.024		.018	.023		.018
Controls												
Female (vs. *male*)				.691	***	.081	.709	***	.081	.711	***	.081
Study year (from 1 to 6)				.659	***	.035	.660	***	.035	.660	***	.035
Field of study: Liberal Arts (vs. *Science*)				.297	**	.097	.330	***	.095	.326	**	.095
Field of study: Medicine (vs. *Science*)				-.418	**	.136	-.430	***	.134	-.428	**	.135

Table 5 *continued*

University level (*N*=69)												
***SA opportunity structures* (H5)**												
Outbound SA program: TGUP & GGJP (vs. *none*)							.781	**	.289	1.016	***	.307
Outbound SA program: TGUP or GGJP (vs. *none*)							.428	*	.214	.678	**	.235
Outbound SA rate: among top 20 (vs. *not*)							.004		.234	.008		.238
Inbound SA rate: among top 30 (vs. *not*)							.628	*	.287	.620	*	.290
THE ranking Japan (1, *not listed* to 4, *among top 20*)							.061		.075	.063		.075
Controls												
Mean absolute ability (*hensachi score*)							.008		.014	.009		.015
Tuition fees (*highest first semester fees*)							.000		.000	.000		.000
University type: National (vs. *former imperial*)							.849	**	.271	.844	**	.274
University type: Local public (vs. *former imperial*)							.943	*	.384	.938	*	.388
University type: Private (vs. *former imperial*)							.493		.298	.495		.301
Cross-level interactions (H5-1/2)												
Higher-SES group x Outbound SA program: both										-.382		.226
Higher-SES group x Outbound SA program: one										-.468	*	.226
Lower-SES group x Outbound SA program: both										-.545	*	.224
Lower-SES group x Outbound SA program: one										-.505	*	.245
Random effects												
Intercept	-3.361	***	.103	-5.968	***	.208	-7.820	***	.918	-8.004	***	.929
Standard deviation intercept	.733		.084	.650		.078	.369		.065	.375		.066
VPC (ICC)		.140			.114			.040			.041	

Significance levels: n.s.=not significant; ***p<0.001; **p<0.01; *p<0.05
Data source: Campus Life Data (2017)

6. Discussion and conclusions

Our study advances research on social inequality in educational attainment in two important ways. First, we better conceptualized social inequalities in SA choice by extending the usual individual-level models into a multi-level framework emphasizing the importance of context effects. Second, using unique micro-level data of students, which we supplemented with context data, we empirically examined how university-level opportunity structures shape inequalities in SA choice by students' socioeconomic status (SES), thereby also providing the first in-depth multi-level analysis of SA in Japan.

Our results show that institutional contexts are powerful predictors of SA intent and participation. In contrast to previous research focusing on general resource differences between universities and student body compositions (Kramer & Wu, 2021; Perna et al., 2015; Whatley, 2019), they show that programs designed to improve SA opportunity structures at universities have the desired positive impact on SA participation. Unlike previous studies, we were thus able to single out the effect of contextual levels above and beyond general university characteristics, student body features, and students' individual characteristics. The variables used in our models largely explained the variance at the university level (83% regarding SA intent and 71% regarding SA participation), with SA opportunity structures being particularly important influencing factors.

Without SA opportunity structures that encourage students to develop and execute SA plans, many students may abandon their initial SA intent – especially those with less resources (Kim & Lawrence, 2021; Lingo, 2019). This finding is theoretically important because the LCP suggests that SA intent develops over the life course, without explicitly clarifying which factors become decisive for individuals eventually deciding to go abroad. In this respect, SA opportunity structures may function as a catalyst for SA intent and participation. Consequently,

policies improving SA opportunity structures likely provide an immediate lever to influence SA participation.

Our analysis also expands the nascent literature emphasizing the role of SA opportunity structures as potential drivers of social inequalities in SA. In this respect, our multivariate results only partially support the individual-level hypotheses: students' educational biography **(H1)**, performance-related factors **(H2)**, cost considerations **(H3)** and benefit considerations **(H4)** are strong predictors of SA intent and, except for benefit considerations, of SA participation, but hardly explain the observed inequalities between SES groups (contrasting the results of Authors 2016a on SA intent of students in Germany). Instead, context variables explain social inequalities in SA intent and participation more than individual-level variables.

Our descriptive findings show that higher-SES students are more likely to be enrolled at universities with good SA opportunity structures (initially supporting **H5-1:** *cultural reproduction thesis*). Our MLA verify the positive influence of institutional contexts, which mediate the influence of the SES on SA intent and SA participation. However, lower- and higher-SES students are equally likely to plan and complete SA if they attend universities with good SA opportunity structures (supporting **H5-2:** *cultural mobility thesis*). Consequently, good SA opportunity structures established through state programs can help achieve rather equal SA participation. Interestingly, mid-SES students seem to benefit most from good SA opportunity structures, suggesting that they have the necessary interest and baseline resources to study abroad, but still so few financial means that they benefit considerably more from the additional SA funds. On balance, however, our findings thus indicate that Japan's recent push towards internationalization of higher education has in fact created relevant SA opportunities – not only for students from well-off backgrounds, but also for the less affluent.

Still, notable horizontal inequalities that arose through internationalization persist, especially regarding SA participation. In fact, lower- and mid-SES students are

disproportionally more often clustered in universities without good SA opportunity structures. Crucially, only 5% of all universities are funded through GGJP/TGUP at present. Against this background, it would be highly relevant to model the effects of further expanding SA opportunity structures on the development of social inequalities. Established theories in the sociology of education, such as the theories of maximally maintained inequality (Raftery & Hout, 1993) and of effectively maintained inequality (Lucas, 2001), suggest that a further expansion of SA opportunity structures might first and foremost be exploited by higher-SES students, and only be used by lower- and mid-SES students once specific SA scholarships become less exclusive (Netz & Finger, 2016). Based on our cross-sectional analyses, however, we cannot predict the effects of an additional expansion of SA opportunity structures.

Our study has further limitations highlighting new avenues for future research. First, the generalizability of our findings beyond Japan is limited. Still, the idea of combining individual-level with contextual-level theories and measures to better understand the conditions under which individuals make decisions about SA promises deeper insights in other countries as well. In this regard, our analyses call for more research investigating potential effects of specific national policies (e.g., ERASMUS+ in Europe or the AAC&U's LEAP initiative in the USA) on social inequalities. The few existing MLA considering university-level factors for SA participation – albeit without taking into consideration actual SA opportunity structures – support the view that university contexts are important for shaping SA decisions also in countries such as Germany, Hungary, Italy, the United Kingdom (Schnepf et al., 2022; Schnepf & Colagrossi, 2020)), Kazakhstan (Perna et al., 2015) and the USA (Kramer & Wu, 2021; Whatley, 2019). It would be interesting to test whether MLA using similar measures of SA opportunity structures come to similar conclusions in other countries.

Second, the operationalization of several variables implies limitations. We operationalized SA participation as a dichotomous variable not considering differences in the

actual costs and expected benefits. Costs can vary by destination country, host institution, or the time spent abroad and may greatly influence the value of SA for social distinction. Supplementary analyses (available upon request) examining the effects of SES on SA participation of different length (up to vs. more than three months) showed that within the group of SA participants, higher-SES students are also more likely to pursue longer stays abroad (in line with Entrich & Fujihara, 2022; Netz & Finger, 2016). This finding indicates further horizontal inequalities in SA participation beyond university contexts that require further investigation.

While we are confident that income is a meaningful measure of SES, we would prefer to additionally consider parents' educational background and evaluate which SES measure is more predictive of SA intent and participation in Japan.[5] Performance-related factors included no measure of absolute ability, such as school or university grades, which might explain why they barely mediated the effect of SES on SA intent and participation. Cost considerations operationalized by students' willingness to bear SA costs exerted strong effects on SA intent and participation but did not explain the SES gap therein. Benefit considerations very well express respondents' desired working environment in the future but did not reflect how important students consider SA to be for their later professional career. Most importantly for our research question, however, we are confident to have measured SA opportunity structures comprehensively.

Third, it would be relevant to additionally examine whether and how the existence of SA opportunity structures influence individual-level explanatory components depending on

[5] Previous studies may have underestimated the economic dimension of SES by solely measuring SES via the educational background of students' parents (e.g., Netz & Finger, 2016; Di Pietro 2020; Schnepf et al. 2022). In fact, studies operationalizing both dimensions report a stronger and more robust impact of economic measures on SA participation (Entrich & Fujihara, 2022; Gerhards and Hans 2013).

SES. For example, lower-SES students' cost and benefit considerations regarding SA decisions may change only once these students are surrounded by SA opportunity structures reducing the financial strain associated with SA and providing information on possible labor market benefits of SA. Including institutional contexts in future studies might thus contribute to the further advancement of sociological decision theory.

Fourth, we could not consider peer effects as facets of (institutional and private) contexts. However, previous research suggests that peers may shape SES-specific SA intent and participation (Brooks & Waters, 2010; Van Mol & Timmerman, 2014).

Fifth, the cross-sectional design of our data implies further limitations. We were only able to study the SA decision-making process controlling for previous SA experiences when predicting SA intent. However, longitudinal research shows that first-year SA intent strongly predicts later SES-specific SA participation (Lingo, 2019). Future studies could thus combine a longitudinal with an MLA design. This would allow scholars to examine whether the tendency that lower-SES students are more likely to abandon their first-year SA intentions is buffered by good SA opportunity structures.

Finally, future research could investigate whether inequalities in SA intent and participation eventually result in unequal future life chances. The few longitudinal studies for Japan report positive labor market returns to SA participation (Shimmi et al., 2017; Yokota et al., 2018). However, they did not account for heterogeneity in its effects on labor market outcomes across SES groups. Whether higher-SES or lower-SES students benefit disproportionally more from their SA participation thus needs to be studied further. Until then, it remains to be seen whether institutional contexts supporting SA participation promote cultural reproduction or cultural mobility – in Japan and globally.

References

Aerts, N., & Van Mol, C. (2023). Explaining Social Selectivity in Study Abroad Participation of German Students between 1994 and 2016. *Sociology of Education*, *0*(0), 00380407231167087. https://doi.org/10.1177/00380407231167087

Asaoka, T., & Yano, J. (2009). The Contribution of "Study Abroad" Programs to Japanese Internationalization. *Journal of Studies in International Education*, *13*(2), 174-188. https://doi.org/10.1177/1028315308330848

Boudon, R. (1974). *Education, Opportunity, and Social Inequality: Changing Prospects in Western Society*. Wiley.

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste.* . Harvard University Press.

Breen, R., & Goldthorpe, J. H. (1997). Explaining Educational Differentials – Towards a formal Rational Action Theory. *Rationality and Society*, *9*(3), 275-305. https://doi.org/10.1177/104346397009003002

Breen, R., & Jonsson, J. O. (2000). Analyzing educational Careers - A multinominal Transition Model. *American Sociological Review*, *Nr. 65*, S. 754-772.

Brooks, R., & Waters, J. (2010). Social Networks and Educational Mobility: the experiences of UK students. *Globalisation, Societies and Education*, *8*(1), 143-157.

DaVanzo, J. (1981). Repeat migration, information costs, and location-specific capital. *Population and Environment*, *4*(1), 45-73. https://doi.org/10.1007/BF01362575

Di Pietro, G. (2020). Changes in socioeconomic inequality in access to study abroad programs: A cross-country analysis. *Research in Social Stratification and Mobility*, *66*, 100465. https://doi.org/10.1016/j.rssm.2019.100465

Di Pietro, G. (2022). Studying abroad and earnings: A meta-analysis. *Journal of Economic Surveys*, *36*(4), 1096-1129. https://doi.org/10.1111/joes.12472

DiMaggio, P. (1982). Cultural Capital and School Success: The Impact of Status Culture Participation on the Grades of U.S. High School Students. *American Sociological Review*, *47*(2), 189-201. https://doi.org/10.2307/2094962

DiPrete, T. A., & Eirich, G. M. (2006). Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments. *Annual Review of Sociology*, *32*(1), 271-297. https://doi.org/10.1146/annurev.soc.32.061604.123127

Ditton, H. (2013). Kontexteffekte und Bildungsungleichheit: Mechanismen und Erklärungsmuster. In R. Becker & A. Schulze (Eds.), *Bildungskontexte: Strukturelle Voraussetzungen und Ursachen ungleicher Bildungschancen* (pp. 173-206). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-531-18985-7_7

Entrich, S. R. (2019). Wer geht während der Schulzeit ins Ausland? Soziale Selektivität in der Akkumulation Transnationalen Humankapitals in Japan. *Japan*, *42*, 230-261.

Entrich, S. R., & Byun, S.-Y. (2021). Supplementary Education at College and Its Consequences for Individual's Labor Market Outcomes in the United States. *IJREE – International Journal for Research on Extended Education*, *8*(2), 116-137. https://doi.org/10.3224/ijree.v8i2.03

Entrich, S. R., & Fujihara, S. (2022). New horizontal inequalities in Japanese education? Examining socioeconomic selectivity in pre-college study abroad intent and participation. *Research in Social Stratification and Mobility*, *81*, 100727. https://doi.org/10.1016/j.rssm.2022.100727

Erikson, R., & Jonsson, J. O. (Eds.). (1996). *Can Education be Equalized? The Swedish Case in Comparative Perspective*. Westview Press.

Fujihara, S., & Ishida, H. (2016). The absolute and relative values of education and the inequality of educational opportunity: Trends in access to education in postwar Japan. *Research in Social*

Stratification and Mobility, *43*(1), 25-39. https://doi.org/https://doi.org/10.1016/j.rssm.2016.03.001

Gambetta, D. (1987). *Were they pushed or did they jump? Individual decision mechanisms in education*. Cambridge University Press.

Gerhards, J., & Hans, S. (2013). Transnational Human Capital, Education, and Social Inequality. Analyses of International Student Exchange. *Zeitschrift für Soziologie*, *42*(2), 99-117. https://doi.org/10.1515/zfsoz-2013-0203

Grund, S., Lüdtke, O., & Robitzsch, A. (2018). Multiple Imputation of Missing Data for Multilevel Models:Simulations and Recommendations. *Organizational Research Methods*, *21*(1), 111-149. https://doi.org/10.1177/1094428117703686

Higuchi, Y., Nakamuro, M., Roever, C., Sasaki, M., & Yashima, T. (2022). Impact of Stay Abroad on Language Skill Development: Regression discontinuity evidence from Japanese university students. *RIETI Discussion Paper Series*, *No. 22-E-085*.

Jonsson, J. O. (1999). Explaining Sex Differences in Educational Choice: An Empirical Assessment of a Rational Choice Model. *European Sociological Review*, *15*(4), 391-404. http://www.jstor.org/stable/522765

Kato, M., & Suzuki, K. (2018). Effective or Self-Selective: Random Assignment Demonstrates Short-Term Study Abroad Effectively Encourages Further Study Abroad. *Journal of Studies in International Education*, *23*(4), 411-428. https://doi.org/10.1177/1028315318803713

Kim, H. S., & Lawrence, J. H. (2021). Who Studies Abroad? Understanding the Impact of Intent on Participation. *Research in Higher Education*, *62*(7), 1039-1085. https://doi.org/10.1007/s11162-021-09629-9

Kobayashi, G. (2018). Nihonjin daigakusei no tanki ryūgaku shikō no keisei yōin (Factors Affecting Japanese University Students' Motivation to Study Abroad). *Ryūgakusei Kyōiku*, *23*, 33-41. http://www.lib.kobe-u.ac.jp/handle_kernel/9005490

Kobayashi, Y. (2021). Non-globalized ties between Japanese higher education and industry: crafting publicity-driven calls for domestic and foreign students with global qualities. *Higher Education*, *81*, 241-253. https://doi.org/10.1007/s10734-020-00539-w

Kramer, D. A., & Wu, J. (2021). A HOPE for Study Abroad: Evidence From Tennessee on the Impact of Merit-Aid Policy Adoption on Study Abroad Participation. *Educational Policy*, *35*(4), 646-675. https://doi.org/10.1177/0895904818823752

Kuromiya, A., Hashimoto, Y., & Kanazawa, M. (2016). The Issues and Realities of University Students Studying Abroad: Based on a Survey aimed at Students (in Japanese). *Kibikokusaidaigaku Kenkyū Kiyō*, *26*(121-133).

Lassegard, J. P. (2013). Student perspectives on international education: an examination into the decline of Japanese studying abroad. *Asia Pacific Journal of Education*, *33*(4), 365-379. https://doi.org/10.1080/02188791.2013.807774

Li, M., & Bray, M. (2007). Cross-border flows of students for higher education: Push–pull factors and motivations of mainland Chinese students in Hong Kong and Macau. *Higher Education*, *53*, 791-818.

Lingo, M. D. (2019). Stratification in Study Abroad Participation After Accounting for Student Intent. *Research in Higher Education*, *60*(8), 1142-1170. https://doi.org/10.1007/s11162-019-09545-z

Lörz, M., Netz, N., & Quast, H. (2016). Why do students from underprivileged families less often intend to study abroad? *Higher Education*, *72*(2), 153-174. https://doi.org/10.1007/s10734-015-9943-1

Lucas, S. R. (2001). Effectively Maintained Inequality. Education Transitions, Track Mobility, and Social Background Effects. *American Journal of Sociology*, *106*(6), 1642-1690. https://doi.org/10.1086/321300

MEXT. (2022a). *Report on "foreign students enrollment status survey" and "number of Japanese studying abroad" (in Japanese)*. https://www.mext.go.jp/content/20220603-mxt_gakushi02-100001342_2.pdf

MEXT. (2022b). *Statistical School Report 2021 (in Japanese)*. https://www.mext.go.jp/content/20211222-mxt_chousa01-000019664-1.pdf

Netz, N. (2015). What Deters Students from Studying Abroad? Evidence from Four European Countries and Its Implications for Higher Education Policy. *Higher Education Policy*, *28*, 151-174. https://doi.org/10.1057/hep.2013.37

Netz, N., & Finger, C. (2016). New Horizontal Inequalities in German Higher Education? Social Selectivity of Studying Abroad between 1991 and 2012. *Sociology of Education*, *89*(2), 79-98. https://doi.org/10.1177/0038040715627196

Netz, N., & Grüttner, M. (2021). Does the effect of studying abroad on labour income vary by graduates' social origin? Evidence from Germany. *Higher Education*, *82*(6), 1195-1217. https://doi.org/10.1007/s10734-020-00579-2

Netz, N., Klasik, D., Entrich, S. R., & Barker, M. (2020). Socio-demographics: A global overview of inequalities in education abroad participation. In A. C. Ogden, B. Streitwieser, & C. Van Mol (Eds.), *Education Abroad: Bridging Scholarship and Practice* (pp. 28-42). Routledge. https://doi.org/https://doi.org/10.4324/9780429431463

Ota, H., & Shimmi, Y. (2019). Recent trends in learning broad in the context of a changing Japanese economy and higher education situation. In R. Coelen & C. Gribble (Eds.), *Internationalization and Employability in Higher Education* (pp. 78-93). Routledge. https://doi.org/10.4324/9781351254885

Perna, L. W., Orosz, K., Jumakulov, Z., Kishkentayeva, M., & Ashirbekov, A. (2015). Understanding the programmatic and contextual forces that influence participation in a government-sponsored international student-mobility program. *Higher Education*, *69*(2), 173-188. https://doi.org/10.1007/s10734-014-9767-4

Pham, H.-H. (2022). Further Understanding on International Student Mobilities in Asia is Needed. *Journal of International Students*, *12*(2), i-iv. https://doi.org/10.32674/jis.v12i2.4898

Raftery, A. E., & Hout, M. (1993). Maximally Maintained Inequality. Expansion, Reform, and Opportunity in Irish Education, 1921-75. *Sociology of Education*, *66*(1), 41-62.

Salisbury, M. H., Umbach, P. D., Paulsen, M. B., & Pascarella, E. T. (2009). Going Global: Understanding the Choice Process of the Intent to Study Abroad. *Research in Higher Education*, *50*, 119-143. https://doi.org/10.1007/s11162-008-9111-x

Schnepf, S. V., Bastianelli, E., & Blasko, Z. (2022). What can explain the socio-economic gap in international student mobility uptake? Similarities between Germany, Hungary, Italy, and the UK. *European Educational Research Journal*. https://doi.org/10.1177/14749041221135080

Schnepf, S. V., & Colagrossi, M. (2020). Is unequal uptake of Erasmus mobility really only due to students' choices? The role of selection into universities and fields of study. *Journal of European Social Policy*, *30*(4), 436-451. https://doi.org/10.1177/0958928719899339

Shimmi, Y., Akiba, H., Ota, H., & Yokota, M. (2017). Long-term Impact of Undergraduate Study Abroad Experiences on Career: Comparative Survey Results among Degree-seeking Study Abroad, Credit-bearing Study Abroad, and Non-study Abroad Groups. *Uebumagajin "Ryūgaku Kōryū"*, *74*, 14-26. https://hdl.handle.net/10086/28709

Simon, J., & Ainsworth, J. W. (2012). Race and Socioeconomic Status Differences in Study Abroad Participation: The Role of Habitus, Social Networks, and Cultural Capital. *ISRN Education*, *2012*, 1-21.

Sugawara, S., Inomata, T., Adachi, Y., Ikeda, T., Kai, T., Kasukabe, Y., . . . Yoshida, A. (2018). *Summary of the 2017 Tohoku University Student Survey: Life of Tohoku University Students*. T. University. https://www.tohoku.ac.jp/japanese/20180419_Stu_English.pdf

Tanaka, N., & Manning, C. (2018). Examining Trends and Future Directions for Short-Term Study Abroad from a Stakeholder's Perspective. *Sōgō Seisaku Ronsō*, *35*, 1-11.

Van Mol, C., & Timmerman, C. (2014). Should I Stay or Should I Go? An Analysis of the Determinants of Intra-European Student Mobility. *Population, Space, and Place*, *20*, 465-479.

Vögtle, E., & Windzio, M. (2022). The 'Global South' in the transnational student mobility network. Effects of institutional instability, reputation of the higher education systems, post-colonial ties, and culture. *Globalisation, Societies and Education*, 1-19. https://doi.org/10.1080/14767724.2022.2047900

Weenink, D. (2014). Pupils' Plans to Study Abroad: Social Reproduction of Transnational Capital? In J. Gerhards, S. Hans, & S. Carlson (Eds.), *Globalisierung, Bildung und grenzüberschreitende Mobilität* (pp. 111-126). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-02439-0_6

Whatley, M. (2019). Study Abroad Participation: An Unintended Consequence of State Merit-Aid Programs? *Research in Higher Education*, *60*(7), 905-930. https://doi.org/10.1007/s11162-018-09540-w

Yokota, M., Ota, H., & Shimmi, Y. (Eds.). (2018). *Impact of study abroad on career development and life (in Japanese)*. Gakubunsha.

Yonezawa, A., & Shimmi, Y. (2015). Transformation of university governance through internationalization: challenges for top universities and government policies in Japan. *Higher Education*, *70*(2), 173-186. https://doi.org/10.1007/s10734-015-9863-0