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# Examining the Associations Between Financial Conditions and Study Abroad in Diverse, Low-income College Students

By Radomir R. Mitic, University of North Dakota & Gregory C. Wolniak, University of Georgia

*The study examines ascribed, financial, and college factors to predict study abroad participation among a national sample of students from financially disadvantaged backgrounds. Based on a longitudinal sample of 398 fourth-year participants of a national scholarship program (consisting of more than 50% students of color and 50% first-generation college goers), results show that despite higher study abroad participation among this group compared to national averages, finances remain a predominant impediment. The results provide a counter-narrative that study abroad participation is for the privileged. Findings also indicate that grant aid and prior exposure to financial adversity in the form of severe poverty are associated with an increased likelihood of study abroad participation, and that these relationships tend not to be moderated by gender or ethnoracial identity. Exploratory information on student motivations for study abroad is also reported. Given the importance of study abroad to learning outcomes, this study points to the importance of attracting to study abroad those for whom the college experience marks a significant break from the adverse conditions of their youth and may inform how study abroad, academic, and financial aid advisors can work with students to find funding sources to make an international experience a reality.*

Keywords: *study abroad, grant aid, social mobility, international education*

Participation in higher education has long been associated with economic (Becker, 1994) and societal (McMahon, 2009) benefits. Higher education practitioners and scholars continue to study the types of experiences that are linked with particular post-college outcomes (Mayhew et al., 2016). But access to certain activities, including study abroad, continues to be elusive (Finley & McNair, 2013). Access to study abroad remains relevant to higher education as it has been linked to several important postsecondary outcomes, including college completion (Bhatt et al., 2022), and the societal benefits it promotes, including democratic outcomes of political stability, human rights, and environmental sustainability (McMahon, 2009). As a high-impact educational practice (Kuh, 2008), study abroad remains of interest as a gateway to several important economic and societal outcomes. Although there are inconclusive findings as to whether study abroad is tied to individual market benefits such as higher earnings (DiPietro, 2021; Liwiński, 2019; Schmidt & Pardo, 2017; Wiers-Jensen et al., 2021; Wolniak & Engberg, 2019), evidence does show the links between study abroad and a host of important outcomes, including: job skills (Preston, 2012), intercultural competence (Salisbury et al., 2013), volunteerism (Mitic, 2020), creative thinking (Lee et al., 2012), and self-efficacy (Cubillos & Ilvento, 2012). On a societal level, study abroad increases understanding among nations (Snow, 2008) and has been a soft power strategy of the U.S. (Akli, 2012; Nye, 2004) and other countries (Yang, 2010) since the mid-20<sup>th</sup> century.

With only approximately 10 percent of U.S. undergraduates studying abroad (Institute of International Education, 2021), there is risk that the above benefits will be stratified based on individuals' ability to pay for study abroad and varied opportunity costs associated with taking the time to study overseas. Prior research has clearly demonstrated that among the greatest barriers to study abroad is cost (Salisbury et al., 2009; Stroud, 2010) and that cost is particularly problematic for students from low-income backgrounds (Lambert, 1989; Simon & Ainsworth, 2012). However, current research focuses on the privileged few who are able to study abroad. There is a clear need for further investigation of financial barriers and enabling factors among students from

underprivileged backgrounds for whom study abroad may be particularly valuable in terms of academic and career development. This study centers a diverse group of students who may not have thought of study abroad as a viable option when they were in high school.

### Study Aims

To address the role that financial circumstances play in determining one's likelihood of participating in study abroad, the present study aims to provide new information on study abroad participation among a national sample of diverse students from financially disadvantaged backgrounds who have been exposed to severe adversity (i.e. acute, individual-level disruptions such as abuse, homelessness, and the foster care system) prior to entering college (Wolniak et al., 2021; Wolniak & Rekoutis, 2016). For all intents and purposes, these students would not be expected to study abroad given prior research showing that students from low socioeconomic backgrounds are much less likely to do so (Amani & Kim, 2018; Whatley, 2017, 2021; Whatley & Clayton, 2020). However, students from adverse backgrounds who managed to overcome barriers and successfully enter higher education bring a level of resilience that may ultimately stimulate an interest in study abroad, though we are aware of no prior research examining this premise.

We ground this study on two fundamental beliefs. First, study abroad is an essential vehicle to promote a host of learning outcomes necessary for life in the 21<sup>st</sup> century. The Association of American Colleges and Universities (2007) identifies study abroad as a “high-impact” educational practice that prepares students to live in an intercultural world, solve problems, and cultivate skills that manifest over their lifetimes. Despite some calls to pull back from globalization through policies such as “America First,” Brexit, and tariffs on trade (Ghemawat, 2017), and U.S. higher education's de-emphasis of international education as seen by fewer foreign language programs and fewer mentions of internationalization in mission statements and strategic plans (Fischer, 2019), college graduates continue to enter a world that demands intercultural and linguistic skills to succeed.

Second, the opportunity to gain 21<sup>st</sup> century skills must be available to all students, not only those who have sufficient financial means. Employers have consistently noted intercultural and linguistic skills as vital for the workforce (Farrugia & Sanger, 2017). Until now, study abroad has been the province of the privileged (Burr, 2005). Studies have shown that study abroad is predominantly accessed by White, upper-class, female, social science and humanities majors (Luo & Jamieson-Drake, 2015; Salisbury et al., 2011; Stallman et al., 2010). While less expensive options such as internationalization of the curriculum at home or domestic study away programs can expose students to different cultures and provide some of the same or greater benefits (Soria & Troisi, 2014), study abroad can be a more immersive experience that cannot always be duplicated (Liu et al., 2022).

The current study examines a diverse, highly mobile group of students to understand the individual and educational predictors of their likelihood to study abroad. Our findings disrupt the narrative that study abroad is not something with which diverse, low-income students engage. The study also serves as a call to financial aid and study abroad practitioners to combat inequities in study abroad access and outcomes. We designed our analyses to address the following research questions:

- (1) Controlling for students' ascribed characteristics and educational experiences, to what extent does their financial situation influence their likelihood to study abroad?
- (2) Are the relationships between financial factors and study abroad moderated by (or conditional on) gender and ethnoracial identity?
- (3) What descriptive evidence exist on students' motivations for study abroad participation?

With the costs of higher education rising, scholars and practitioners must move the conversation beyond simple calls for more funding in order to center the focus on making access to study abroad more equitable. With this study we leverage a unique sample of diverse, highly mobile college students for the purpose of better understanding the combination of financial and other factors that influence participation in study abroad. Our findings support the argument that the financial landscape for expanding access to study abroad would benefit from institutional and third-party study abroad providers to focus more attention on the accessibility of funding opportunities, particularly for students with backgrounds marked by financial adversity.

### **Conceptual Framework**

Within the broad context of existing trends in study abroad among U.S. college students, we conceptually situate this study at the intersection of two theoretical frameworks. First, human capital theory's emphasis on decision-making based on a cost-benefit analysis (Becker, 1994) informs study abroad research as students make calculations when they decide whether to study abroad. Several scholars have noted that study abroad participation as part of human capital formation (Baláz & Williams, 2004; Gerhards & Hans, 2013; Salisbury et al., 2009). However, human capital theory does not adequately take into account the ways in which differences in social contexts – such as those formed by gender, class, or race – influence students' educational decision-making. Therefore, we also draw from status attainment theory (Blau & Duncan, 1967) to address deficiencies that come with taking a strictly human capital perspective. Status attainment theory posits that socioeconomic outcomes, including social mobility, are a function of educational and background characteristics such as gender, class, and race. Status attainment theory is particularly relevant for studying the effects of college on low-income students, as this population has the greatest opportunity for upward mobility. We consider status attainment theory to also be informative for understanding how college experiences – including study abroad – and institutional environments influence students' developing into adults who engage with their communities through the home, work, and citizenship (Tinto, 1975). Together, models of human capital and status attainment suggest that financial and background characteristics may predict study abroad participation, while the underlying mechanisms differ across theories.

### **Literature Review**

Different motivations to study abroad represent an important characteristic by which to understand study abroad participation. Hoffa and DePaul (2010) argue there are four non-mutually exclusive motivations: curricular, cross-cultural, career enhancement, and psychosocial development. Curricular motivation stresses the unique experiences not present on U.S. campuses such as immersive learning of a target language. Cross-cultural motivation centers on learning about a culture, whether it is a new culture or further exploration of one's family heritage. Career enhancement motivation reflects the human capital model in that students gain skills for future employment. Psychosocial development motivation involves gaining intrapersonal and interpersonal skills, including a sense of adventure. Inherently, there is an element of risk as these students push their boundaries by undergoing language study and leaving the comforts of their local environment to accomplish these gains (Holtbrügge & Engelhard, 2016). Beyond one's internal motivations, existing evidence highlights several ascribed, financial, and experiential factors that influence students' access to, and propensities for, participating in study abroad during college. The remainder of this section explores this literature.

## **Ascribed Characteristics**

Studies have shown several ascribed characteristics to be predictors of study abroad intent and participation. While White students make up the majority of students who study abroad, multivariate analyses have found few racial and ethnic differences except that Asian American students were less likely to study abroad than White students (Luo & Jamieson-Drake, 2015, Salisbury et al., 2011). In terms of gender, female students have been found to be more likely to study abroad than male students (Luo & Jamieson-Drake, 2015; Niehaus & Inkelas, 2016; Salisbury et al., 2009).

## **Financial Barriers**

Barriers to study abroad participation include individual factors, localized to the students themselves, their families and friends, as well as institutional factors. While students may face more than one barrier simultaneously, the ability to pay for college, let alone a study abroad experience, remains one of the most pronounced barriers. For example, study abroad programs often add a direct expense to the undergraduate experience, as well as indirect costs (i.e., opportunity costs) from the lost wages associated with on-campus or off-campus employment while abroad (Brux & Fry, 2010). Finances, however, appear to affect students differently based on their socioeconomic backgrounds, where students from higher socioeconomic strata will be expected to have fewer financial concerns. Walpole (2003) noted that low SES students are less involved on campus in general (e.g., contact time with faculty, studying, volunteer work, and student groups), while Burr (2005) added that students from less privileged backgrounds come to college dismissing study abroad as something that is out of reach for them; something that only the wealthy partake.

In part to lower financial barriers to study abroad, and in response to evidence that students are often unaware of the scholarship opportunities available (Albers-Miller et al., 1999), scholarship programs and informational resources have become more available in recent years. Organizations such as NAFSA: Association of International Educators (2022) and Diversity Abroad (2022) have compiled a list of resources to assist students and study abroad providers. In addition, the U.S. federal government has established study abroad fellowships for students studying internationally on issues of national interest such as the Critical Language Scholarship (U.S. Department of State, 2022) as well as for low-income students such as the Gilman International Scholarship program (West, 2019). Some of these programs are specifically aimed at diversifying study abroad participation, such as the Institute of International Education's Generation Study Abroad Travel Grants program (2022). And while Lien (2007) noted that fixed-amount scholarships, independent of academic achievement, may be an ideal method to promote study abroad, at present there exists very little research on the effects of these kinds of grant and scholarship programs. In fact, few studies have examined how financial assistance or other financial resources may affect the likelihood of studying abroad among students from low-income backgrounds (Whatley, 2017; Whatley & Clayton, 2020) and we are aware of no prior study of concepts related to financial adversity as a predictor of study abroad.

## **Undergraduate Experience**

A student's choice of college major is a key factor influencing whether they choose to study abroad. Prior studies have shown that, relative to other majors, social science majors are significantly more likely to intend to study abroad (Salisbury et al., 2009), and that humanities majors are more likely to do so than engineering and natural science majors (Luo & Jamieson-Drake, 2015). In comparing STEM and non-STEM majors, Niehaus and Inkelas (2016) found that non-STEM majors had a

greater likelihood to study abroad than STEM majors. These findings suggest that certain fields such as the arts and humanities (which include foreign language majors) may be more amenable to a study abroad experience than a STEM discipline that requires a structured sequence of courses that makes a semester abroad (if the courses are not offered abroad) more difficult. This body of evidence points to the need to account for students' major field of study to understand the unique influence of financial and other factors on students' access to and participation in study abroad.

In terms of when undergraduates study abroad, students normally choose to enroll later in their academic careers. In 2019-2020, 43% of undergraduates studying abroad were juniors, 27% were seniors, and 12% were sophomores. The remainder were "unspecified" undergraduate level students, first-year students, and students enrolled in community colleges (IIE, 2021).

Altogether, the literature on study abroad highlights that ascribed characteristics, finances, and collegiate environment all factor into whether undergraduate students study abroad. What is less clear, however, is how particular forms of financial assistance (e.g., grant aid) and prior critical financial need play a role and whether there are interactions between these financial factors and students ascribed characteristics.

### Study Design and Participants

This study represents one part of a comprehensive research effort designed to interrogate the academic and career trajectories of students from severely low-resourced and adverse backgrounds over four years of college and beyond. We drew from longitudinal data collected between September 2017 and May 2021 among a population of 839 first-time college students who received a one-time scholarship from the Horatio Alger Association (HAA), a not-for-profit organization focused on supporting college students from predominately low-income backgrounds who had been exposed to severe adversity during their childhoods. The HAA Scholarship Program annually grants roughly 700-800 scholarships of \$10,000, along with a select handful of about 100 awards of \$25,000. Both types of awards are dispersed evenly over one's time in college to recipients who maintain good academic standing (i.e., a grade point average of at least 2.0). Recipients may apply the funds to cover their costs of attendance at the institution of their choosing. The applicants who receive the scholarship awards are determined through a comprehensive committee review process organized by HAA and based on a combination of factors such as aspirations to complete a bachelor's degree, critical financial need, co-curricular and community service involvement during high school, evidence of resilience in the face of adversity, and having at least a 2.0 GPA in high school. The present study examined the 2017 entering college cohort of scholarship recipients over four years of college.

Data were collected through student surveys administered at multiple points in time. An entering first year ( $Y_1$ ) student survey was administered within the first few weeks of college to the 514 students who provided consent to participate, yielding 455 completed surveys that captured a host of indicators of precollege academics, attitudes towards academics, careers, and self-identity. Data were subsequently collected among all  $Y_1$  respondents at the start of their second year ( $Y_2$ ), towards the end of the third year ( $Y_3$ ), and towards the end of their fourth year ( $Y_4$ ), regardless of their current enrollment status. Altogether, the  $Y_1$ - $Y_4$  surveys collected information on participants' experiences, choices, and environments related to their undergraduate education, including participation in and motivations towards study abroad. Overall, the surveys garnered roughly 400 completed surveys and an overall  $Y_1$ - $Y_4$  response rate of approximately 78% (representing 48% of the full sample population). Altogether, the students attended 182 public and private, not-for-profit, four-year U.S. institutions.

A key aspect of the study's participants is their prior exposure to the kinds of adversity that align with what the Centers for Disease Control defines as Adverse Childhood Experiences (or ACEs), representing "potentially traumatic events that occur in childhood" (CDC, 2019, p. 1). Within our sample, the average number of adversities experienced by the students in this study is 2.1, including individual-level adverse experiences spanning interpersonal adversities (including the death or incarceration of a parent or guardian), non-interpersonal adversities (including homelessness, illness, or disability), and financial adversity. Most notable for the present study is that 61.6% of study participants reported experience with financial adversity, which is captured through self-reports of having experienced severe poverty prior to college. While the unique qualities of these scholars limited our ability to generalize their educational experiences and outcomes to the broader population of college students, information on these students as they progress through college provides a unique and valuable opportunity to examine individual attributes and educational experiences that affect their likelihood of participating in the kinds of higher education programs known to be beneficial across a range of developmental outcomes (AAC&U, 2007). When thinking of students for whom study abroad may truly be considered an out-of-reach experience reserved for their privileged peers, upwardly mobile students like those included in our sample should come to mind. What remains to be seen is what factors influence their decision of whether to study abroad, and particularly the extent to which financial mechanisms and contexts (such as grant aid received, cost of institution attended, and backgrounds marked by financial adversity) affect their study abroad participation.

## Methods

### Analytic Sample

The analytic sample consists of 398 students who participated in all Y<sub>1</sub>-Y<sub>4</sub> surveys. These 398 respondents skewed female (73%), generally reflecting a similar pattern to the overall population of U.S. undergraduates (57% in fall of 2019, NCES, 2021). Additionally, over half of participants attended public institutions (68%) and represented a diverse range of racial and ethnic backgrounds, with no group comprising the majority; Black (14%), Hispanic (21%), and White (49%) students were most heavily represented. Eighteen percent of students studied abroad during their undergraduate education. Furthermore, STEM majors (26%) were predominant, followed by social sciences (20%), health and human services (17%), arts and humanities (12%), and business (10%). The mean college grade point average was 3.45 out of 4.0.

Data from each survey were weighted to address systematic non-response by adjusting each round of data to reflect the proportional distribution of the full population of scholarship recipients. Given prior research indicating that college students' likelihood to participate in surveys varies by demographics, where female, White, and Asian-identified students are more likely to respond to surveys (Blaney et al., 2019), our proportional adjustments were based on race (White, Asian, Other), gender (female, male), and other aspects of the sampling frame. Each longitudinal weight was ultimately standardized to the number of students completing the survey to maintain appropriate standard errors of the estimates. We present robust standard errors as a means of minimizing bias resulting from students being nested within institutions. Table 1 presents descriptive statistics for all study variables, Table 2 presents study abroad participation rate across all categorical independent variables, and Table 3 provide bivariate correlations among all variables.

**Table 1***Descriptive statistics of study variables (N=398)*

	Min	Max	Mean	SE
<b>Ascribed Characteristics</b>				
Female	0	1	0.734	0.022
Male	0	1	0.266	0.022
Asian and Pacific Islander	0	1	0.090	0.014
Black	0	1	0.136	0.017
Hispanic	0	1	0.210	0.013
White	0	1	0.490	0.025
Multiracial / Other	0	1	0.075	0.013
<b>Financial Conditions</b>				
Grant Aid Received	0	\$52,848	\$32,114	1.154
Annual Cost of Attendance	\$3,000	\$70,000	\$34,980	0.993
Prior Financial Adversity (0=No, 1=Yes)	0	1	0.794	0.020
<b>Undergraduate Learning Environment &amp; Academics</b>				
Major: Arts & Humanities	0	1	0.116	0.016
Major: Business	0	1	0.098	0.015
Major: STEM	0	1	0.256	0.022
Major: Health & Human Services	0	1	0.168	0.018
Major: Social Science	0	1	0.198	0.020
Major: Missing	0	1	0.048	0.011
Major: Other	0	1	0.055	0.011
College Type: Public	0	1	0.678	0.023
College Type: Private	0	1	0.322	0.023
College GPA	1.0	4.0	3.453	0.028
Study Abroad Participation	0	1	0.178	0.019

**Table 2***Study abroad participation rate across study variables (N=398)*

	Participation Rate (Overall = 17.8%)
<b>Ascribed Characteristics</b>	
Female	17.1%
Male	19.8%
Asian and Pacific Islander	27.8%
Black	20.4%
Hispanic	15.7%
White	16.4%
Multiracial / Other	16.7%
<b>Financial Conditions</b>	
Prior Financial Adversity	19.6%
<b>Undergraduate Learning Environment &amp; Academics</b>	
Major: Arts & Humanities	15.2%
Major: Business	10.3%
Major: STEM	15.7%
Major: Health & Human Services	10.4%
Major: Social Science	32.9%
Major: Missing	5.2%
Major: Other	18.2%
College Type: Public	13.7%
College Type: Private	26.6%

Table 3

*Bivariate correlations*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	
1. Study Abroad	1.00																						
2. Female	-.01	1.00																					
3. Male	.01	-.01	1.00																				
4. Asian and Pacific Islander	.05	-.16**	.16**	1.00																			
5. Black	.05	-.05	.05	-.14**	1.00																		
6. Hispanic	-.003	.01	-.01	-.17**	-.22**	1.00																	
7. Multiracial or Other	.01	.06	-.06	-.009	-.12*	-.15**	1.00																
8. White	-.05	.09	-.09	-.302**	.39**	.49**	.27**	1.00															
9. Grant Aid	.23**	-.04	.04	0.03	.14**	-.01	-.15**	1.00															
10. Cost	.30**	-.11*	.10*	.14**	0.01	.10*	.01	-.18**	.49**	1.00													
11. Financial Adversity	.10*	.07	-.07	-.009	-.04	.06	.08	-.01	.06	.10*	1.00												
12. Major: Arts & Humanities	-.03	-.02	.02	-.006	.08	.04	-.01	-.05	.04	.00	0.08	1.00											
13. Major: Business	-.06	-.20**	.20**	-.000	-.02	-.07	.09	.02	.01	-.07	0.07	-.12*	1.00										
14. Major: Education	.04	.14**	-.14**	-.004	-.01	-.03	.06	.02	-.00	-.03	0.03	-.09	-.08	1.00									
15. Major: STEM	.01	-.23**	.23**	.16**	-.04	.023	-.07	-.06	.20**	.14**	.10*	.22**	.21**	.15**	1.00								
16. Major: Health	-.09	.16**	-.16**	-.003	.02	-.16**	-.04	.16**	-.28**	.16**	-.02	.16**	.15**	-.11*	-.27**	1.00							
17. Major: Social Sciences	.17**	.17**	-.17**	-.000	.03	.07	-.01	-.07	.12*	.16**	.05	.17**	.16**	-.11*	-.29**	.21**	1.00						
18. Major: Missing	-.08	.02	-.02	-.006	-.06	.13**	.01	-.04	-.12*	-.10*	.03	-.08	-.08	-.05	-.14**	-.10*	.10*	1.00					
19. Major: Other	-.03	.03	-.03	-.008	-.02	-.01	.04	.05	-.10*	-.10*	-.09	-.09	-.08	-.06	-.15**	-.11*	.11*	-.05	1.00				
20. College Type: Public	-.15**	.00	-.00	-.007	.06	-.09	-.10	.12*	-.27**	.66**	-.06	-.05	.01	.06	0.02	.08	.12*	-.04	.05	1.00			
21. College Type: Private	.15**	-.00	.00	0.07	-.06	.09	.10	-.12*	.27**	.66**	.06	.05	-.01	-.06	-.002	-.08	.12*	.04	-.05	-.05	1.00		
22. Grade Point Average	.15**	.08	-.08	0.01	-.04	-.04	-.02	.14**	.12*	.05	-.05	.02	-.03	.07	0.03	-.02	0.07	-.16**	-.03	-.03	0.03	1.00	

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001

## Measures

**Dependent Variable.** The dependent variable was participants' self-reported college study abroad participation at any time over four years of college, represented as a binary (0/1) variable. Compared to the national figure of 10%, our analytical sample yielded approximately 18% study abroad participation.

**Independent Variables.** We used several independent variables in our analytical model. First, we included a set of ascribed characteristics, including gender and ethnoracial identity. For ethnoracial identity we employed an effect coding strategy rather than traditional dummy-coding, where we compared each categorical variable against the overall mean of the entire sample rather than against a reference group (Cohen et al., 2003). This practice is consistent with critical quantitative techniques that seek to move away from referring to certain groups (e.g., White students) as the norm (Mayhew & Siminoff, 2015; Stage, 2007; Wolniak et al., 2020). As all of the students who participated in the current study came from households at the low end of the income spectrum (mean adjusted gross family income of \$26,641), we have excluded annual family income as a variable in lieu of other financial considerations and to focus attention on students' indicating experiencing financial adversity prior to college, in the form of critical financial need. Given the study's focus, we have included financial adversity among the primary independent variables, even though this measure stems from events that occurred prior to entering college.

Of particular interest to this study, we included a set of financial variables in the form of institutional cost, grant aid, and pre-college financial adversity. The grant aid item covered all aid that did not have to be repaid. While the institutional cost variable was continuous, the grant aid item was transformed from the original 6-item categorical measure (0 = \$0; 1 = \$1-\$2,999; 2 = \$3,000-5,999; 3 = \$6,000-\$9,999; 4 = \$10,000-\$14,999; 5 = \$15,000 or more) into midpoint dollar values of the middle four categories to approximate a continuous measure. The midpoint of the open-ended final category was then estimated to be \$58,848 using the Pareto approximation technique (Parker & Fenwick, 1983; Wolniak et al., 2008). This technique has been shown to offer better estimates for top-coded earnings information in survey data over other estimation techniques such as a fixed multiple above the highest coded data point (Armour et al., 2014).

To control for the confounding influence of participants' undergraduate educational environments, we also included a set of eight dummy-coded college major variables and a dummy variable for institutional control (public or private). College major was collected at each survey administration, with the most recent response included in the analysis. Social science majors were selected as the referent groups given prior research showing social science majors indicated stronger study abroad intent (Lingo, 2019). Finally, we included cumulative college grade point average as a control for academic achievement based on evidence that GPA is a consistent predictor of study abroad intent (Kim & Lawrence, 2021).

## Analyses

To answer the study's research questions, we employed descriptive and multivariate approaches. First, we conditioned the data and conducted a missing data analysis. We ultimately decided to only use complete cases given that less than five percent of values were missing across all but two variables. Those two variables include study abroad participation and college grade point average, for which approximately 20% of the cases were missing. We determined these to not be candidates for imputation given the categorical nature of study abroad and its role as the dependent variable, and because we lacked sufficient information on prior high school GPA and transcripts to develop an imputation model of college GPA with a high degree of confidence.

To address Research Question 1, we used logistic regression to examine the main effects of ascribed characteristics, finances, and collegiate environment on study abroad participation. The logistic regression equation is as follows:

$$\ln \left( \frac{P}{1-P} \right) = b_0 + b_1\mathbf{A} + b_2\mathbf{F} + b_3\mathbf{C}, \quad (1)$$

where the outcome variable  $P$  represents the probability of participating in study abroad at any point across four years of college,  $\mathbf{A}$  is a vector of all ascribed characteristics,  $\mathbf{F}$  is the set of financial variables, and  $\mathbf{C}$  is a vector containing all college variables.

To address Research Question 2, we built on the above equation by including interaction terms among ascribed characteristics and each of the three financial variables (grant aid, cost, and financial adversity), as shown in Equation 2. This analytic step stems from prior research showing that various financial measures have heterogenous effects on a host of college outcomes based on one's racial/ethnic identity (Chen & DesJardins, 2010; Fischer, 2007; Hu & Wolniak, 2013), along with an abundance of prior studies showing that female students overwhelmingly participate in study abroad (Luo & Jamieson-Drake, 2015; Niehaus & Inkelas, 2016). This led us to explore if, or to what extent, the ascribed characteristics of gender and ethn racial identity may moderate the influence of the financial variables. We only tested for moderation for those financial variables found to have statistically significant main effects in addressing Research Question 1.

$$\ln \left( \frac{P}{1-P} \right) = b_0 + b_1\mathbf{A} + b_2\mathbf{F} + b_3\mathbf{C} + b_4(\mathbf{A} * \mathbf{F}), \quad (2)$$

Finally, to address Research Question 3, we compiled descriptive statistics on students' motivations for choosing to study abroad. Students who indicated they had participated in study abroad were asked a series of five questions related to the factors that influenced their decision. They were asked (on a four-point Likert scale: 1 = "not at all" to 4 = "a great deal") the extent to which various reasons influenced their decision to study abroad, including: to improve language proficiency; to learn about a new culture; to gain job skills; to fulfill a sense of adventure; and to join friends. We performed independent samples  $t$ -tests to ascertain whether there were any differences in the means for each motivation based on gender and financial adversity (ethn racial subsamples were too small to run similar analyses). Given the small sample size for the gender and financial adversity analyses, the results should be viewed as exploratory and purely descriptive.

### Limitations

The results we have presented above should be considered with respect to four key limitations. First, the onset of the COVID-19 pandemic occurred in Spring 2020, in the midst of the data collection period for the  $Y_3$  survey: just over one-third (37%) of respondents completed the survey after their campus closed to in-person activities, while nearly two-thirds (63%) completed the survey before their campus closure was announced. While emerging research indicate the short-term developmental consequences of campus closures, it is notable that students who responded to the survey before versus after campus closure did not differ by gender or racial/ethnic identity (Wolniak & Burman, in press). However, given the timing of institutional responses to the initial wave of the pandemic, which occurred in close proximity to many institutions' spring holidays, there were very likely cancellations of short-term study abroad programs planned during the 2020 spring break period. Short-term programs have been increasing in popularity due to their lessened impact on

course sequences and lower cost compared to semester-long and academic year-long programs. While we are unable to know for certain if, or how, our study participants had study abroad experiences affected by such cancellations, it is certain that the pandemic reduced opportunities to study abroad in spring and summer 2020, and potentially throughout the following 2020-2021 academic year. This is important to consider given that the third year is the most popular time for students to study abroad, with the summer between the third and fourth year as well as the fourth year also being popular times to study abroad (IIE, 2021). Despite these unforeseen disruptions to study abroad opportunities, the overall 18% of our sample who reported studying abroad during their undergraduate years (2017-2021) is nearly double the national figure of 10% (IIE, 2021).

Second, the dichotomous dependent variable for study abroad lacks information as to the length of the program (e.g., full year, semester, short-term), the location (e.g., English-speaking United Kingdom versus a less popular locale), and the program type (e.g., living with other Americans taking classes in English versus direct enrollment in a local institution taking classes in the local language). We acknowledge being unable to examine with greater precision the factors that influence students' likelihood of participating in various types of study abroad programs. For example, we are unable to generalize our results to support claims that financial conditions have different effects on one's likelihood of studying abroad in, say, a Chinese university with Chinese-language instruction for a full year, than on one's likelihood of studying abroad via a weeklong excursion to England where students mixed touring with pre- and post-trip meetings in the U.S. In our data, both of these examples would be treated as study abroad, though their differences are notable.

Third, while the sample is unique in ways that create opportunities for new analyses like the ones we present in this study, it is important to note that information gleaned from these data are confounded by a high level of resilience among the participating students, based on their exposure to severe adversity prior to college. It may be that resilience of the sort the study participants embody may account for their higher than national average rates of participation in study abroad. In other words, some of the same qualities that led these students to seek out a college scholarship program may also influence their participation in study abroad. As a result, the results we present should not be generalizable beyond this particular sample of college students until future studies of comparable but different samples provide some degree of replication.

Fourth, only students who completed all waves of the survey were included in the analytical sample. Therefore, this study is not generalizable to all 2017 recipients of the Horatio Alger Association Scholarship, but rather only to those who completed all four surveys. The results of this study should be considered with these limitations in mind.

## Results

In this section, we discuss the main and moderating effects that address Research Questions 1 and 2, respectively. We report odds ratios ( $\exp(B)$ ) for each independent variable, holding constant all other variables.  $\exp(B)$  represents the estimated change in the odds ratio of participating in study abroad that is associated with a one-unit change in an independent variable and is most useful for interpreting the effects of categorical independent variables.

Table 4 presents results from the full weighted logistic regression model. An analysis of model fit found a McFadden's- $R^2$  of 0.181. The McFadden- $R^2$  fit statistic is a pseudo- $R^2$  value that compares the log likelihood of a null model to the log likelihood of the model estimated, with a range of 0 to 1. It is important to note, however, that McFadden is just one of many commonly used statistics (e.g., Cox & Snell, Nagelkerke), and is typically more conservative than other alternative pseudo- $R^2$  fit statistics (McFadden, 1974; Smith & McKenna, 2013).

**Table 4***Estimated general effects predicting study abroad participation (N=398)*

	<i>B</i>	<i>exp(B)</i>	<i>SE</i>
<b>Ascribed Characteristics</b>			
Female	-0.170	0.844	0.377
Asian and Pacific Islander	0.022	1.022	0.462
Black	0.432	1.540	0.362
Hispanic	-0.423	0.655	0.296
Multiracial and Other	0.034	1.034	0.494
White	-0.064	0.938	0.292
<b>Financial Conditions</b>			
Grant Aid Received (per \$1,000)	0.017	1.017	0.009 *
Annual Cost of Attendance (per \$1,000)	0.044	1.044	0.014 ***
Prior Financial Adversity	0.810	2.247	0.509 *
<b>Undergraduate Learning Environment &amp; Academics</b>			
Major: Arts & Humanities	-0.944	0.389	0.601
Major: Business	-0.990	0.371	0.693
Major: Education	-0.074	0.929	0.626
Major: STEM	-0.809	0.445	0.431 *
Major: Health & Human Services	-0.755	0.470	0.528
Major: Other	-0.203	0.817	0.719
College Type: Public	0.724	2.063	0.526
College Grade Point Average	0.944	2.571	0.377 **
<i>McFadden's-R</i> <sup>2</sup> = 0.181			

*Notes:* Reference categories are: Major: Social Sciences =0; College Type: Private=0. An additional dummy variable for Missing major was included in the model but not shown in the table. Ethnoracial categories were effect-coded and are in comparison with the grand mean. SE represent Robust Standard Errors. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

When estimating students' likelihood of participating in study abroad, we found no statistically significant differences among students by gender or across ethnoracial identities. However, turning attention to students' financial conditions, the results uncovered some notable effects.

All three financial variables yielded statistically significant associations with study abroad participation. The amount of grant aid received ( $exp(B) = 1.017$ ,  $p < .05$ ), institutional cost ( $exp(B) = 1.044$ ,  $p < .001$ ), and prior financial adversity ( $exp(B) = 2.247$ ,  $p < .05$ ) each positively related to students' likelihood of studying abroad. In other words, \$5,000 in grant aid would be associated with an increase of odds by nearly 1.1 times. Similarly, students who reported experiencing prior financial adversity in the form of severe financial need were more than two times as likely to study abroad than their peers who did not report such adversity. While we note that attending a higher cost

institution is associated with a greater likelihood of studying abroad, probably due to greater institutional resources, the above effects are significant holding constant the differences in institutional costs.

Across the undergraduate learning environment and academics measures, net of ascribed characteristics and financial conditions, it appears that majoring in a STEM-related field was negatively associated with study abroad. Relative to their peers who majored in a Social Science field, STEM majors were less than half as likely to study abroad ( $exp(B) = 0.445, p < .05$ ). Furthermore, all else equal, students who achieved higher grade point averages throughout college were more likely to study abroad ( $exp(B) = 2.571, p < .01$ ). In other words, every one-unit increase in GPA (on a 4.0 scale) was associated with 2.5 times increase in the odds of studying abroad. Lastly, attending a public versus private institution did not yield a statistically significant influence on students' likelihood of study abroad participation.

Results from our examination of moderation effects focused on gender and ethnoracial identity differences in the associations between each of the three financial variables and the likelihood of participating in study abroad. We present the results here in narrative form, rather than in a table, due to the small number of estimates that reached statistical significance. Only one statistically significant interaction result stemmed from these analyses: the effect of grant aid on study abroad participation was significantly lower for students identifying as Asian and Pacific Islander ( $exp(B) = 0.959, p < .05$ ), providing evidence of a negative moderation effect. It is important to note that the main effect for Asian and Pacific Islander identity ( $exp(B) = 5.767, p < .05$ ) was also statistically significant within the interaction model. Interpreted together, and recalling the positive general effect of grant aid, these results indicate that students who identify as Asian and Pacific Islanders are more likely to participate in study abroad than the sample mean, and that receiving grant aid has a significantly smaller effect on their likelihood of studying abroad. Thus, institutional efforts to relieve financial strain through grant aid does not uniformly stimulate students' likelihoods of studying abroad, but that students who identify as Asian or Pacific Islanders are less responsive than average.

**Table 5**

*Descriptive statistics of the motivation to study abroad (N=60)*

	Min	Max	Mean	SD
<b>To what extent have the following reasons influenced your decision to study abroad?</b>				
Fulfill a Sense of Adventure	1	4	3.927	0.262
Learn About a New Culture	3	4	3.710	0.640
Gain Skills for a Job After College	1	4	2.907	0.934
Gain or Improve Proficiency in a Foreign Language	1	4	2.369	1.312
Join Friends on a Study Abroad	1	4	2.181	1.607

Our final set of results (addressing Research Question 3) explore the motivations to study abroad among the 60 study participants who had studied abroad during their undergraduate years and who completed the survey items asking about motivations (see Table 5). Of the five reasons for choosing to study abroad measured (on a 4-point Likert scale, from 1 = "Not at all" to 4 = "A great

deal”), the most prominent motivation was to fulfill a sense of adventure ( $M = 3.93$ ,  $SD = 0.262$ ). The desire to learn about a new culture was also particularly salient ( $M = 3.71$ ,  $SD = 0.640$ ). Of the five reasons, joining friends was the least popular reason ( $M = 2.18$ ,  $SD = 1.307$ ). In testing differences between male and female students, female students ( $M = 3.83$ ,  $SD = 0.458$ ) were more interested in learning a new culture than male students ( $M = 3.49$ ,  $SD = 0.853$ ),  $t(58) = 2.015$ ,  $p = .049$ .

## Discussion

Finances remain one of the biggest barriers to study abroad participation. Students encounter several direct and indirect costs (Brux & Fry, 2010; Walpole, 2003; Whatley, 2017; Whatley & Clayton, 2020) that make an international experience during their undergraduate years more difficult. Our understanding of how students traditionally decide to study abroad rests on notions of cost-benefit analysis that are the root of human capital theory (Becker, 1994). Where human capital theory is limited, however, is in conceptualizing the decision to study abroad as being embedded within social contexts (including the institutional environment) and identity-based characteristics such as gender, class, and race (Tinto, 1975). With this study, we have centered a population of high-achieving, low-income students that prior literature has most often ignored in relation to study abroad access. With the remainder of this section, we provide answers to the study’s research questions by discussing how financial factors relate to study abroad among our sample of college students, and whether financial factors are moderated by (conditional on) gender and/or ethnoracial identity, and what motivated these students to study abroad.

First, important differences emerged when examining students’ financial circumstances. Even after controlling for institutional cost, institutional type, and college majors that may make students more or less predisposed to study abroad, grant aid and financial adversity were positively and significantly associated with study abroad participation. Furthermore, given that institutional costs contribute to students’ overall financial situation, it is notable that, holding constant grant aid and prior exposure to financial adversity, attending a higher cost institution increases students’ likelihoods of studying abroad. Higher priced institutions may in fact provide additional resources to make study abroad more accessible, such as their own campuses or partnerships with providers.

While the grant aid finding is not surprising by itself, it is telling given the relatively high study abroad participation rate among the study’s sample of students. Given the paucity of study abroad research on student populations that are majority students of color, low socioeconomic status, and who face multiple types of adversity prior to entering college, our findings illustrate nuance beyond family income to explain the likelihood of study abroad participation in this diverse population. Interestingly, students who reported experiencing prior financial adversity were associated with a greater likelihood of study abroad. This may indicate that these students rise above their situations to pursue high-impact opportunities in ways that are consistent with the concept of positive adaptation (Brooks et al., 2016) or continued resilience (Luthar et al., 2000). Although this adaptation and resilience are positive attributes, it begs the question of whether our current study abroad finance system asks more from this population than others. We argue that the onus should be on institutions for the communication of opportunities may be the most effective way to reduce the principal cost barrier to study abroad (Albers-Miller et al., 1999; Brux & Fry, 2010; Burr, 2005).

A point for future exploration is the source of grant funds that factored into the decision to study abroad. A qualitative follow-up can provide more depth as to the source of funds and the process by which the student had to undergo to obtain those funds. For example, a student who was able to apply for or automatically receive institutional grant funds to study abroad would have undergone a different process than a student who had to apply for a Boren Fellowship or Critical

Language Scholarship. These applications require essays where students have to state a particular purpose such as learning a language not commonly taught at U.S. colleges and universities. Because students in our sample studied abroad primarily out a sense of adventure or to learn a new culture (as found in relation to Research Question 3), existing programs may not necessarily be aligned with their motivations for studying abroad. Understanding student motivations and the process they go through to obtain funding can shed more light on the lived experiences of these students.

Among the ascribed characteristics, a surprising finding emerged. That is, among the students who participated in our study, neither gender nor ethnoracial identity were significant predictors of study abroad participation. This result is in opposition to nearly all of the established research on study abroad intent and participation, and merits further exploration (Luo & Jamieson-Drake, 2015; Niehaus & Inkelas, 2016; Salisbury, 2011; Salisbury et al., 2009; Stroud, 2010). Given that this sample of low-income, upwardly mobile students participated at rates nearly double the national average, this finding may indicate that gender and ethnoracial identities have less of a differentiating influence on study abroad participation among a sample marked by low-income status. In other words, socioeconomic status may overshadow other identity-based traits in terms of accessing study abroad programs.

Furthermore, among ethnoracial groups, prior research suggests that Asian and Pacific Islanders tend to be less likely than Whites to intend to study abroad (Luo & Jamieson-Drake, 2015; Salisbury, 2011; Salisbury et al., 2009). Alternatively, our findings indicated that among students from low socioeconomic backgrounds, study abroad participation did not differ by ethnoracial identity, net of all other variables analyzed, but that the amount of grant aid received has less of a positive relationship to study abroad participation among students who identify as Asian and Pacific Islander. For campuses with significant Asian and Pacific Islander populations, this finding can encourage an examination of award amounts to see if there are differences in study abroad participation between students who identify as low-income versus those who do not.

In addition, our findings related to undergraduate major and college GPA track closely to the established literature (Salisbury, 2011; Salisbury et al., 2009; Stroud, 2010) on study abroad participation. While GPA was not a surprising positive predictor of studying abroad given that many programs have stringent GPA requirements as high as a 3.0, it should be noted that 87% of our study's sample would have met this requirement and therefore been prime candidates to study abroad based on academics alone.

In addition, the finding that STEM majors were less likely to study abroad speaks to the curricular challenges of fitting a study abroad experience into a student's academic calendar and may also speak to differences in students' interests and goals. A move towards more short-term summer and even spring break study abroad programs may help accommodate STEM students who wish to gain important intercultural skills or even join their non-STEM major friends on an opportunity to see the world. Among this sample of upwardly mobile students, we see that college major has a similar relationship to study abroad participation as found within the general population. While the STEM fields are consistent with national research on college majors and social mobility (Carnevale et al., 2011; Wolniak et al., 2008), students from low-resourced backgrounds may be keenly interested in selecting these majors to improve their post-college life compared to their parents. The decision should not, however, be between a socially mobile major and a study abroad experience that grants the intercultural and linguistic skills that employers are expecting of 21<sup>st</sup> century graduates.

Finally, we observe that fulfilling a sense of adventure and learning about new cultures are the most important reasons for studying abroad for this population, while joining friends was a lower concern. Human capital-related motivations such as gaining language proficiency or employment skills were secondary concerns. This may be a function of college students' desire for

psychosocial growth and adventure, as opposed to viewing study abroad as job training or skill development. These findings add context to Hoffa and DePaul's (2010) and Holtbrügge and Engelhard's (2016) research on potential marketing strategies for lower-income college students vis-à-vis their more privileged peers.

And while we cannot dispute the importance of programs that prioritize grant aid to expand opportunities related to such things as language acquisition, we recommend more general cultural learning opportunities in the spirit of "soft power" cultural diplomacy programs that can open more financial avenues for students who wish to study abroad without committing to learning a language deemed critical for national security reasons. For example, a study abroad experience in a Spanish-speaking country may be no less critical given the ubiquity of Spanish spoken in the U.S., but the language does not qualify for the Critical Language Scholarship.

### **Implications for Practice**

The findings from this study offer several implications for national, institutional, and third-party study abroad provider audiences. In general, we argue that expanding study abroad access requires a large commitment of financial resources. While the students in this study were highly motivated to seek out aid in the form of a private scholarship, we also note that there are several procedural hurdles that make accessing grant aid difficult. Low-income and first-generation students in particular are the ones who are burdened by the very nature of surviving in college.

Initiatives such as Generation Study Abroad, which aim to increase the number of U.S. students studying abroad, have raised awareness of the benefits of studying abroad. Nevertheless, responsibility to expand study abroad opportunities ultimately falls on colleges and universities because students most often complete study abroad for college credit. At the institutional level, U.S. colleges and universities should continue to diversify study abroad by creating opportunities that appeal to a wider base of students, especially among low-income students from challenging backgrounds. If institutions continue to only send historically "typical" students abroad, we will only see a slow incremental increase in the number and diversity of undergraduate participants. Groups that are historically underrepresented in study abroad include first-generation college students, racial/ethnic minorities, LGBT students, men, students with disabilities, and athletes, (Engel, 2007); these groups will remain underrepresented without additional efforts to expand participation.

Higher education institutions may need to employ additional recruitment measures within fields such as STEM to specifically target lower income students (IIE, 2021). Promising alternative funding models exist that could be expanded, such as research internships like those funded by the German Academic Exchange Services (DAAD) where students receive grant funding and pay to work on a research project at a German university over the summer (2022). Paid opportunities have multiple benefits beyond the financial benefit of addressing direct and opportunity costs, by also giving students the opportunity to hone intercultural skills while adding valuable research experience vital to job and graduate school applications.

Third-party providers also face challenges in providing more financial resources for their students to study abroad. Third-party providers assist students with much of the paperwork required to study abroad, including visas, but this assistance often comes at a higher cost. Providers can help lessen the financial stress of study abroad by having strong partnership with students' home institutions to ensure the ease of transfer of financial aid funds to pay for direct expenses. In addition, providers can offer in-country travel opportunities (e.g., day trips) that can take advantage of economies of scale and discount pricing that can make students' experience more affordable than if they were to plan excursions on their own. An added benefit of provider-led excursions is that they can be faculty-led and incorporate a series of learning objectives rather than leaving students to

shape their experience. Knowing the financial challenges and the factors that influence choices among a more diverse student population should assist providers in expanding study abroad opportunities beyond the students they typically serve. If the nexus between international education organizations, funders, institutions, and providers can break down financial barriers, we may see continued diversification of study abroad participation and access to the various social and economic benefits of such an experience. Within our sample of high-achieving students with exposure to prior adversity, increasing opportunities to participate in study abroad will facilitate gains in the kinds of intercultural and linguistic skills necessary for social mobility in the 21<sup>st</sup> century.

### **Conclusion**

The student sample we examined in this study represent a vulnerable subset of the undergraduate population, in stark contrast to the predominantly White, upper-class, female, social science students known to populate study abroad programs. With 18% of the study's participants studying abroad, this sample represents a group that wants to engage in this "high-impact" college experience; an experience that is widely viewed as influential for success in the 21<sup>st</sup> century (AAC&U, 2007). Nevertheless, even among resilient and highly motivated students from low-income and adverse backgrounds, like those we have studied here, study abroad may be viewed as an "add-on" experience. Despite the financial needs of students in this sample, there appears to be a drive to seek out international study. Institutions can see these results and think of ways to further incentivize study abroad, while acknowledging the pervasive influence that financial concerns have on students' decisions to study abroad. Given the push to diversify study abroad (IIE, 2021), we offer that students of similar profiles to those we have studied as prime targets of study abroad promotion early in their undergraduate career.

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