

An Analysis of the Connections Between Involvement in Study Abroad, Other High-Impact Educational Practices, and Co-Curricular Activities

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Abstract:

In the present study, the linkages between study abroad participation, participation in other high-impact educational practices, and participation in co-curricular activities were examined. It was the purpose of the study to determine if study abroad participants also chose to participate in multiple other high-impact educational practices and co-curricular activities at significantly higher rates than their peers who did not study abroad. The present study demonstrated that many students who study abroad tend toward multiple-participation (e.g., participation in multiple voluntary activities) when controlling for race/ethnicity, gender, and academic major. While multiple-participation was established among many study abroad subgroups, the current study was not able to substantiate multiple-participation among all student subgroups.

Introduction

At first glance, it is reasonable to assume that study abroad participants are similar to all other college students. However, the results of earlier research indicate noteworthy differences between study abroad students and their peers (BaileyShea, 2009; Rust, Dhanatya, Furuto, & Kheiltash, 2008). For one thing, college students who study abroad represent a small subgroup of the general college student population; today, only about 1% of college students study abroad despite relatively consistent increases in the study abroad population over the last fifteen years (Nye, 2014; Taff, 2014). Notwithstanding the continually increasing levels of study abroad participation by today's college students, the research into study abroad is considered the most incomplete of any of the high-impact educational practices delineated within Kuh's engagement theory; this is probably attributable to the very specific population of students who choose to engage in study abroad (Brownell & Swaner, 2009).

High-impact educational practices, also known as high-impact practices (HIPs), are those practices fostered by educational institutions, and activities engaged in by students, which are demarcated by previous research as promoting gains in the engagement indicator scales of the National Survey of Student Engagement (NSSE) and are also credited with fostering retention and persistence in college students (Di Maggio, 2017; Kuh, 2009a; 2009b; 2009c). The current study extended the empirical literature by using NSSE data to determine whether or not study abroad participants showed greater rates of involvement in other HIPs, in co-curricular programming, and

in faculty interactions for co-curricular purposes in comparison to their peers who did not study abroad.

Background of the Study

Study abroad participants have been previously studied for links between their involvement in other activities and studying abroad (BaileyShea, 2009; Griswold, 2014; Rust, Dhanatya, Furuto, & Kheiltash, 2008). Similarly, study abroad participants were studied for the gains they made over non-participants in various areas of student engagement, student development, social capital, and underlying retention constructs that support study abroad participants' greater persistence and retention (BaileyShea, 2009; Di Maggio, 2016; 2017; Du, 2007; Finley, 2008; Gonyea, 2008; Griswold, 2014; Metzger, 2006; Mistretta, 2008; Pascarella & Terenzini, 2005). Furthermore, institutional and socio-cultural factors were examined in previous research to predict the likelihood of potential study abroad participation among college student subgroups (BaileyShea, 2009; Posey, 2003). Finally, study abroad participants themselves were studied to determine if there are particular characteristics common to students who chose to study abroad (BaileyShea, 2009; Di Maggio, 2016; McKim, Latham, Treptow, & Rayfield, 2013, Rust et al., 2008; Yankey, 2014). However, as the most understudied of the HIPs, the empirical literature is still incomplete when considering multiple-participation in several HIPs and study abroad, when considering co-participation in study abroad and in other co-curricular activities, or when considering interactions with faculty for the purposes of co-curricular programming (BaileyShea, 2009; Brownell & Swaner, 2009; Di Maggio, 2016; McKim et al., 2013; Rust et al., 2008).

Purpose of the Study

It was the purpose of the present study to determine whether or not students who studied abroad showed greater co-participation in other activities. Specifically, it was the intended research outcome to determine if students who studied abroad tended to engage in multiple-participation. Multiple-participation is defined as the participation in study abroad, in multiple, voluntary HIPs, in interactions with faculty for co-curricular purposes, and in other co-curricular programming at a greater rate than the general population. In order to consider this question, NSSE data was used in the descriptive and inferential analysis. Using a large sample of NSSE data makes this study national in nature, as opposed to regional or institutional.

Literature Review

Theoretical Frame

Kuh's student engagement theory

Student engagement has been defined as the amount of psychological energy a student commits to both social and academic activities that are congruent with the mission of the college or university that he or she attends and that are educationally purposeful (Di Maggio, 2016; Kuh et al., 1991; Kuh, 2003, 2009a; 2009b; 2009c; Pascarella & Terenzini, 2005; Turi, 2012). Educationally purposeful activities, also known as engagement indicator themes, foster student development and assist the student in taking responsibility for his or her own learning, both academically and socially. (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006; NSSE, 2017; Pascarella & Terenzini, 2005). Students who engage more in their college environment show student development, retention, persistence, and academic gains at a rate that is significantly greater than students who do not (Di Maggio, 2016;

2017; Kuh, 2009a; 2009b; 2009c; Pascarella & Terenzini, 2005; Posey, 2003). The more engaged students become in educationally purposeful activities, the greater the impact on their college experience because they take ownership of their own learning and development (Kuh, 2009a; 2009b; 2009c; NSSE, 2017; Pascarella & Terenzini, 2005).

The National Survey of Student Engagement (NSSE)

Kuh's (2008) theory of engagement was an essential element of the current study because the underlying theoretical construct that drives the NSSE is the source of the data used for this study; the NSSE measures a student's gains in the engagement indicator themes (NSSE, 2017). Kuh's (2008) engagement indicators are organized into the themes of (a) academic challenge (which measures a student's ability to do work independently and to engage in higher-order cognitive thinking), (b) learning with peers (which measures the amount that a student has been exposed to collaborative learning and to diverse interactions), (c) experiences with faculty (which measures the amount of time students have spent interacting individually or in groups with faculty members outside of class instruction), and (d) campus environment (which measures how supportive and helpful a student finds the college environment and which also measures the quality of the interactions with particular members of the faculty and staff of the college or university) (NSSE, 2017). Kuh (2003; 2008; 2009a; 2009b; 2009c) viewed educationally purposeful activities, or engagement indicator themes, as supportive of student learning both in an academic development and a student development sense (NSSE, 2017).

What are HIPs?

Kuh's (2008; 2009a; 2009b, 2009c) research identifies what is a High-Impact Educational Practice (HIP). Kuh has elucidated that the HIPs that foster higher scores on the NSSE engagement indicator themes are learning communities and specific common educational experiences (e.g., writing intensive courses and freshmen seminars), service-learning or community service activities, research with faculty outside of classroom requirements, internship experiences, study abroad, and culminating senior experiences (NSSE, 2017).

Since these practices foster student success, several of the HIPs are often required or strongly encouraged on college campuses. First-year seminars, first-year orientation experiences, learning communities, writing-intensive courses, and senior capstone courses or projects are typically required HIPs (Kuh, 2008). However, some of these high-impact educational practices are typically voluntary; study abroad is one such voluntary experience (Kuh, 2008; Nye, 2014). Other examples of voluntary high-impact educational practices are undergraduate research opportunities that take place outside of classroom requirements, service-learning opportunities, and internship opportunities.

Since engagement in HIPs leads to greater student development, persistence, and retention, the relationship between participation in study abroad, other high-impact educational practices, and co-curricular activities becomes important to researchers and practitioners (Kuh, 2008; Kuh, 2009a; Kuh, 2009b). This is because researchers will want to be able to more clearly examine the relationship between different HIPs so as to better understand and delineate engagement indicator gains based on HIP participation, and practitioners will want to consider aspects of program development in relation to students' propensity for multiple-participation.

Review of the Empirical Literature

Study abroad student characteristics

Women are more likely to study abroad than men, but student involvement pathways are changing so that men's participation in study abroad is becoming more prevalent (Pascarella & Terenzini, 2005; Rust et al., 2008; Yankey, 2014). Characteristics of study abroad participants have become an increasingly interesting area of the research related to study abroad as study abroad participation grows and as the demographics of students who study abroad tend toward diversification (American Institute for Foreign Study [AIFS], 2013; BaileyShea, 2009; Di Maggio, 2016; 2017; Griswold, 2014; McKim et al., 2013; Nye, 2014; Rust et al., 2008; Yankey, 2014). Based on this growth and diversification, several studies attempted to predict which student groups would be most likely to study abroad (BaileyShea, 2009; Rust et al., 2008). So far, the salient factors related to predicting study abroad participation have been limited to specific key characteristics: gender (women are still more likely to study abroad than men); social class (upper-middle class students are more likely to study abroad than those with less means); and attendance at particular institution types (liberal arts institutions have the highest study abroad rates) (Rust et al., 2008). Other studies have predicted that students who have already garnered involvement in at least one other activity are more likely to study abroad (BaileyShea, 2009; Griswold, 2014).

The disparity between desire and doing when studying abroad

There is also a disparity between students' intention to study abroad and their actual follow-through in participating. The Rust et al. (2008) study used data from the Higher Education Research Institute (HERI) to provide student affairs practitioners with the profile of a student likely to study abroad. In their study, Rust et al. found that 53% of students overall had the desire to study abroad; however, few students actually participated in study abroad. The disparity between desire and doing rests in specific factors according to Rust et al. Some of the factors that contributed to students' non-participation were race, gender, and socioeconomic status (Rust et al., 2008).

Similar to Rust et al. (2008), BaileyShea (2009) used the HERI's Freshman Survey to predict who would study abroad, but unlike Rust et al., BaileyShea also used a senior survey produced by HERI to analyze and predict why there is a disparity between desire and doing. In the BaileyShea study, sixty-one percent of freshmen students said that they intended to study abroad while in their freshman year, which was a dramatically high number. Unfortunately, the high number of students who intended to study abroad did not equal actual study abroad participation. BaileyShea opined several reasons for this disparity related to race and ethnicity.

Differences between minority and white students

BaileyShea (2009) found that minority students were significantly more likely to intend to study abroad than white students. However, when it came to actual participation in study abroad, more white students participated than minority students. BaileyShea found that there was a statistical connection between minority students' parental education and the actual likelihood of studying abroad. She also found that minority students were more likely to study abroad based on a large enrollment of the same racial or ethnic group at their institution (BaileyShea, 2009). BaileyShea's findings help to illuminate aspects of the Rust et al. (2008) findings. The BaileyShea findings also

demonstrate that there are variables that exist that contribute to and detract from study abroad participation.

Similar to BaileyShea (2009), Posey (2003) found, as part of an institutional study that he conducted, that Hispanic women were the most likely to study abroad at his institution. The institutional study took place at a university with a large Hispanic population. Posey also found that the ethnicities and races of students who studied abroad was often a factor in where students would choose to study abroad. For example, Hispanic students who were native Spanish speakers were more likely to choose a destination where they could practice Spanish. However, Caucasian non-native speaking students of a second language most often chose to study in London according to Posey. This tied the Posey study to already known, national trends about the choices made by students who attempted to study abroad (Pascarella & Terenzini, 2005), namely that students were choosing to study abroad in order to have an international experience and not necessarily to learn a new language (BaileyShea, 2009; Carlson & Widaman, 1988; Rust et al., 2008). Additionally, Posey found, similar to other studies, increased retention and persistence rates among study abroad students (Di Maggio, 2016; 2017; Malmgren & Galvin, 2008).

Men studying abroad

Yankey (2014) found that men's participation in study abroad differed from women's participation, just as minority student participation differed from Caucasian student participation (BaileyShea, 2009; Posey 2003). Specifically, Yankey helps to solidify why there is a disparity between desire and doing for men who study abroad. Rust et al. (2008) found that men often intend to study abroad, but many times chose not to. Yankey found that men oftentimes would not study abroad if their friends would not study abroad with them. Men did not want to miss the social interactions that occurred within peer groups; this affected their ability to follow through on participation (Yankey, 2014).

Extracurricular involvement and studying abroad

Also, important to the current study is the finding that certain types of extracurricular involvement (e.g., fraternity/sorority membership, internships, and student government participation) increased the odds that a student would study abroad (BaileyShea, 2009; Griswold, 2014). BaileyShea explained that greater extracurricular participation leads to studying abroad. BaileyShea related her findings to Astin's (1999) model of involvement. Specifically, BaileyShea refers to Astin's statement that involvement at college leads to more student involvement.

The BaileyShea (2009) study contained a large sample of quantitative data to illuminate who participates in study abroad. However, with regard to one finding, BaileyShea could not use the model of statistical regression she wanted to, which would have established multiple-participation among study abroad participants, due to logistical problems within her methodology. This added finding would have informed the current study even more thoroughly.

While both BaileyShea (2009) and Rust et al. (2008) formulated models to determine what type of people study abroad, BaileyShea engaged more deeply in looking at student involvement patterns. BaileyShea showed that involvement leads to participation in study abroad and therefore substantiated the need for the current study.

Brownell and Swaner (2009) discussed, in their literature review, the concept of how HIPs relate to student advances in engagement. They found that four of the HIPs have been written about intensively, while some, such as study abroad, have not been studied as thoroughly. Brownell and Swaner recommended more research about the possible relationship extant between the HIPs. Like BaileyShea (2009), Brownell and Swaner provided a broad depth of what the potential outcomes would be for each HIP activity and the variables leading to participation. However, Brownell and Swaner did not discuss what likely outcomes would be for students who participate in a multitude of HIPs. Outcomes of the current study would identify whether such a conversation is necessary in the empirical literature.

The topic of the current and previous section of the literature review centered on the different choices and characteristics of students that were important in determining potential participation in study abroad. Additionally, the empirical literature provided reasons for why students choose not to participate in study abroad. By showing the characteristics and choices of study abroad participants and the choices and characteristics leading to non-participation, existing literature establishes that there are variables that affect participation; therefore, it is relevant to explore whether or not it is likely that students who study abroad are involved in other activities on campus as well. The next section explores the relationship between study abroad and other activities on a college campus.

Study abroad and involvement in other activities as related to multiple-participation

In contrast to BaileyShea (2009) and Rust et al (2008), Mistretta (2008) studied the long-term resulting effects of study abroad. Mistretta interviewed eight alumni of a study abroad program that took place for many years at the University of Buffalo. The program participants who studied abroad did so between 1962 and 1991. Mistretta discovered in this phenomenological study that the long-term effects of study abroad were found to be significant by the participants themselves, though many of them had trouble delineating what those effects were.

All of the alumni in Mistretta's (2008) study who had studied abroad had some varying degree of outside, civically-oriented activities in their post-study abroad post-graduate lives, though none of the participants related those activities to study abroad. The behavioral attitudes registered in this study support the idea that study abroad participants may tend toward intense participation in multiple activities in addition to study abroad. Mistretta's study was equally divided between genders, and the findings of additional deep involvement years and decades after a study abroad experience demonstrate that it is possible that study abroad students tend to participate in more activities than their peers.

LaPierre (2011), unlike Mistretta (2008), found co-participation between study abroad and another HIP. LaPierre concluded that there was an increased connection that existed between a first-year learning community at the University of North Dakota and the chance that a student would study abroad. LaPierre explained this increased possibility by advocating that there was a study abroad option built into the learning community for first-year students. However, the study abroad experience was only an option, which demonstrated an increased connection between study abroad and participation in another HIP. The current study was an effort to analyze whether this

connection existed between multiple HIPs and study abroad and across both genders, a limitation of the LaPierre findings.

Social capital

Griswold (2014), unlike the other researchers in this section, did not seek to outline relationships between different types of involvement, but instead demonstrated relationships between HIPs and social capital. Specifically, Griswold used NSSE data in her study to determine which HIPs contributed to several subsets of social capital. Griswold found that study abroad participants had developed more trust, were more civically oriented, and were more likely to volunteer than students who had not studied abroad. Interestingly, Griswold's findings do not support the premise that students who study abroad have a higher involvement social capital than students who do not study abroad. Social capital is defined by Griswold as a group of differentiated factors that contribute to the social relationships that exist between a person and others. The fact that students who study abroad showed more trust and are more civically minded could lead to a greater understanding of why they also would show greater involvement, namely because they are more likely to trust those who are seeking to get them involved in other activities. However, Griswold's findings do not support the premises of this study, i.e., that students who study abroad tend toward multiple-participation, because she did not find greater involvement social capital.

While the Griswold (2014) study does not fully support the current study, it does provide some areas in which students who are likely to study abroad have particular skill sets that would foster involvement in other areas. Additionally, the other existent empirical research did lend support to the current study, as earlier research has shown that there are characteristics that set study abroad students' apart from others in very specific ways (BaileyShea, 2009; Di Maggio, 2016; 2017; Griswold, 2014; LaPierre, 2011; McKim et al., 2013; Mistretta, 2008; Nye, 2014; Posey, 2003; Rust et al., 2008).

Research Design

Research Question & Hypothesis

The following research question was formulated and best exemplifies the next logical step in study abroad research related to study abroad participants' potential tendencies toward multiple-participation:

RQ1: To what extent is there a relationship between students' participation in study abroad and their participation in one or more self-determined high-impact educational practices or other co-curricular experiences while controlling for particular student choices and student characteristics?

Research Design & Sample

A quantitative research model was implemented to explore the relationship between study abroad participation and participation in other high-impact educational practices or co-curricular programming while controlling for race/ethnicity, academic major, and gender. The study was performed using data collected during the 2011 administration of the NSSE and was analyzed using descriptive and inferential statistics. Since it was the purpose of the study to measure categorical variables related to multiple-participation in particular HIPs, non-parametric testing was used for the inferential analysis (Field, 2009). The reason that 2011 data was used in the current study, despite the

gap in time since the data was collected, is because national samples of NSSE data are not released to researchers who are not affiliated with the Center for Postsecondary Research at Indiana University until at least four years have lapsed since the data was collected. Institution level datasets are available earlier to faculty and staff of the particular institution where the data was collected, while samples of national data remain proprietary to the Center for Postsecondary Research.

In 2011, first year and senior students from 751 institutions in the U.S. and Canada were invited to participate in this administration of the NSSE (NSSE, 2011). There were 537,605 students who responded to the 2011 invitation of administration, including 109,352 students from Canadian institutions (NSSE, 2011). 418 institutions (65%) opted for the web-only administration of the survey (NSSE, 2011). Because this research study measured the characteristics of study abroad participants, the representative sample only included seniors as the majority of study abroad experiences take place during the junior year (AIFS, 2013), and because it yielded a larger population from which to draw a sample. A sample was requested from the Center for Postsecondary Research that had the following parameters: (a) a 20% sample of all students who attend a U.S. institution; (b) inclusion of all survey items and institutional characteristics; and (c) the variable that considers whether a student studied abroad or did not study abroad. Additionally, all student and institutional identifying information was removed from the data sample by Indiana University's Center for Postsecondary Research. A 20% sample was requested because it is the maximum standard amount that is distributed to researchers.

The relationship between the independent and dependent variables was measured using a chi-square test to show if the relationship between study abroad participation and participation in other activities happened by chance or was significantly different from the participation of those who did not study abroad.

Research Variables

Independent variable

The independent variable for this study was whether or not students had studied abroad. On the NSSE, this variable is measured by asking the student: Which of the following have you done or do you plan to do before you graduate from your institution (NSSE, 2012)? One of the choices is study abroad, to which the student can respond: have not decided; do not plan to do; plan to do; or done (NSSE, 2012). For the purposes of this study, only the cases that were indicated as having "done" study abroad fell within the study abroad participant group; all other students fell within the study abroad non-participant group.

Control variables

Control variables for this study included the self-reported student characteristics of race/ethnicity, gender, and primary major. In the NSSE, racial/ethnic classifications are broken up into 10 categories (NSSE, 2012). All 10 categories were considered. For the category of gender, the NSSE only allowed classification as male or female; therefore, these two categories were considered without reference to transgendered individuals (NSSE, 2012). Primary major on the NSSE is divided into 85 different majors; however, each major belongs to one of 10 overarching categories (NSSE, 2012). Therefore, these 10 overarching categories were used in the current study (NSSE, 2012).

Dependent variables

This study was an examination of specific voluntary high-impact educational practices, participation in co-curricular activities, interaction with faculty in co-curricular or extracurricular activities, and whether or not study abroad participants engage in multiple-participation. For the HIPs, the researcher created binomial variables out of ordinal variables to run analysis; whether or not a student participated in the other HIPs was determined in the same way that study abroad participation was determined. Those students who marked “done” on the NSSE survey were considered participants in that particular HIP; all students who answered any other response for that particular HIP were considered non-participants. The following HIPs were considered in this study: participation in an internship; participation in research with faculty outside of class requirements; and participation in volunteer or community service activities. For co-curricular participation and faculty interaction within co-curricular or extracurricular activities, the variables were also collapsed into binomial variables as follows: five or less hours spent on co-curricular activities per week vs. six or more hours spent on co-curricular activities per week; never/sometimes worked with faculty on activities other than coursework (committees, orientation, student life activities, etc.) vs. often/very often worked with faculty on activities other than coursework.

The reason that five hours was chosen as the benchmark for the dependent variable related to co-curricular participation and often/very often was used as the benchmark for working with faculty was to lessen the possibility of the halo effect that sometimes occurs in relation to self-reported surveys (Pike, 1999). Students who do not participate in co-curricular activities or interact with faculty outside of class, but know that they should be doing so, are more likely to say they participate at a low level (Pike, 1999). By grouping the lowest levels of interaction with the second lowest level for these two variables, it is hoped that the halo effect may be mitigated (Pike, 1999).

Data Analysis

When analyzing the dataset, crosstabulations were created to provide a description of the data, and then inferential statistics were used to examine the relationship between the independent and the dependent variables. By making all variables in this study binomial variables, chi-square testing became the appropriate choice to measure the recoded data (Field, 2009). Furthermore, the large sample size of the NSSE dataset made meeting the assumptions for the chi-square test easy (Field, 2009). The data analysis showed whether or not there was significantly more participation by study abroad participants in the other activities considered than for students who never studied abroad.

Limitations

Based on BaileyShea (2009), it is a limitation that the current study does not control for parental education. However, the current study sought more to identify what participation pathways might exist for students based on several characteristics and choices. Therefore, there was already a wide range of control variables, many of which have also been understudied in previous empirical literature because the control variables chosen for this study represent often underrepresented subgroups in the study abroad population (Brownell & Swaner, 2009; Rust et al., 2008).

An additional limitation based on the structure of the NSSE is that causality could not be determined as part of this study (NSSE, 2012). The NSSE measures participation in particular HIPs, but it does not delineate what type of participation happened at what point in a students' college

career. In other words, it was not possible, as an outcome of this study, to show that because of study abroad, students participated in other activities. However, it was possible to show the likelihood that students who participated in study abroad were or were not more likely to also participate in other activities at some point in their college career.

Data Analysis

Descriptive Analysis

Crosstabulations were made that showed larger percentages of study abroad participants demonstrated co-participation in the dependent variables measured than those who did not study abroad (see Tables 1 and 2). What is interesting to note is that the total number of study abroad participants in the sample was 5,238 (of a total $n=31,628$), and yet despite the much smaller sample of study abroad participants, when controlling for gender, there were always at least an approximate 29% of that small sample that indicated participation in each of the dependent variables. Since five dependent variables were measured, even without examining the co-participation of the study abroad group further inferentially, it was clear that study abroad students tended toward multiple-participation. Additionally, a quick glance at Table 2 also shows that study abroad participants, when controlling for race and major, often showed much higher percentages of participation in the other HIPs, in co-curricular programming, and in faculty interactions outside of class requirements than students who never studied abroad. Chi-square testing was next used to show whether participation in each of these areas was more significant for study abroad participants than for non-participants.

Table 1. Crosstabulations of Study Abroad Participants and Non-Participants Sorted by Control Variable

Control Variable	Study Abroad	Internship		Research		Volunteer		Co-Curricular		Faculty Interaction		
		Didn't	Did	Didn't	Did	Didn't	Did	<5	6>	Never/Some	Often/Very Often	
Male	Did	1615	558	1057	1054	561	455	1160	378	1237	1057	558
	Didn't	9986	5196	4790	8037	1949	4520	5466	4336	5650	7807	2179
Female	Did	3623	1104	2519	2544	1079	678	2945	923	2700	2434	1189
	Didn't	16,404	7758	8646	13,569	2835	5958	10446	8410	7994	12792	3612
Arts & Hum	Did	1194	477	717	897	297	326	868	330	864	897	297
	Didn't	3742	2129	1613	3217	525	1751	1991	1944	1798	3217	525
Bio Sci	Did	434	120	314	201	233	64	370	78	356	201	233
	Didn't	1881	900	981	1155	726	550	1331	710	1171	1155	726
Business	Did	899	311	588	711	188	199	700	209	690	711	188
	Didn't	5026	3014	2012	4583	443	2321	2705	2644	2382	4583	443
Education	Did	278	49	229	209	69	43	235	84	194	209	69
	Didn't	2406	659	1747	2089	317	792	1614	1283	1123	2089	317
Engineering	Did	251	81	170	137	114	76	175	59	192	137	114
	Didn't	1814	757	1057	1340	474	758	1056	646	1168	1340	474
Phys Sci	Did	187	50	137	81	106	41	146	48	139	81	106
	Didn't	947	496	451	582	365	374	573	388	559	582	365
Professional	Did	356	109	247	259	97	73	283	118	238	259	97
	Didn't	2603	1073	1530	2207	396	885	1718	1403	1200	2207	396
Soc Sci	Did	1095	321	774	715	380	191	904	253	842	715	380
	Didn't	3811	1990	1821	2961	850	1371	2440	1792	2019	2961	850
Other/Undecided	Did	544	144	400	388	156	120	424	122	422	344	200
	Didn't	4160	1936	2224	3472	688	1676	2484	1936	2224	3192	968
Native Amer.	Did	19	11	8	14	5	7	12	6	13	7	12
	Didn't	204	110	94	172	32	98	106	101	103	154	50
Asian	Did	387	186	201	249	138	128	259	130	257	266	121
	Didn't	1679	917	762	1334	345	762	917	718	961	1266	413
Black	Did	196	83	113	122	74	29	167	63	133	113	83
	Didn't	2240	1325	915	1918	322	928	1312	1234	1006	1714	526
White	Did	3805	1082	2723	2646	1159	782	3023	856	2949	2556	1249
	Didn't	17,600	7971	9629	14,300	3300	6661	10939	8198	9402	13833	3767
Mexican	Did	107	42	65	64	43	30	77	34	73	71	36
	Didn't	1093	674	419	926	167	498	595	616	477	868	225
Puerto Rican	Did	28	11	17	20	8	6	22	9	19	21	7
	Didn't	205	118	87	179	26	102	103	117	88	169	36
Other Hispanic	Did	127	45	82	86	41	26	101	45	82	73	54
	Didn't	767	424	343	640	127	339	428	412	355	590	177
Multiracial	Did	150	41	109	105	45	23	127	38	112	101	49
	Didn't	740	394	346	608	132	280	460	343	397	564	176
Other Race	Did	90	35	55	63	27	21	69	22	68	65	25
	Didn't	386	223	163	305	81	172	214	215	171	290	96
No Response	Did	329	126	203	229	100	81	248	98	231	218	111
	Didn't	1476	798	678	1224	252	638	838	792	684	1151	325

Table 2. Crosstabulations of Study Abroad Participant and Non-Participant Percentages Sorted by Control Variable

Control Variable	Study Abroad	Internship		Research		Volunteer		Co-Curricular		Faculty Interaction		
		Didn't	Did	Didn't	Did	Didn't	Did	<5	>6	Never/Some	Often/Very Often	
Male	Did	1615	34.6%	65.4%	65%	35%	28%	72%	23.4%	76.6%	65.4%	34.6%
	Didn't	9986	52%	48%	80.5%	19.5%	45%	55%	43.4%	56.6%	67.2%	32.8%
Female	Did	3623	30.5%	69.5%	70.2%	29.8%	18.7%	81.3%	25.5%	74.5%	67.2%	32.8%
	Didn't	16,404	47%	53%	82.7%	17.3%	36.3%	63.7%	51.3%	48.7%	78%	22%
Arts & Hum	Did	1194	40%	60%	75%	25%	27.3%	72.7%	27.6%	72.4%	75%	25%
	Didn't	3742	57%	43%	86%	14%	46.8%	53.2%	52%	48%	86%	14%
Bio Sci	Did	434	27.6%	72.4%	46%	54%	14.7%	85.3%	18%	82%	46.3%	53.7%
	Didn't	1881	47.8%	52.2%	61.4%	38.6%	30.2%	70.8%	37.7%	72.3%	61.4%	38.6%
Business	Did	899	34.6%	65.4%	79%	21%	22.1%	77.9%	23%	77%	79%	21%
	Didn't	5026	60%	40%	91%	9%	46%	54%	53%	47%	91%	9%
Education	Did	278	17.6%	82.4%	75%	25%	15.5%	84.6%	30%	70%	75%	25%
	Didn't	2406	27.4%	72.6%	86.8%	13.2%	33%	77%	53.3%	46.7%	86.8	13.2%
Engineering	Did	251	32.3%	67.7%	54.6%	45.4%	30.3%	69.7%	23.5%	76.5	54.6%	45.4%
	Didn't	1814	41.7%	58.3	73.9%	26.1%	41.8%	58.2	35.6%	64.4%	73.9%	26.1%
Phys Sci	Did	187	26.7%	73.3%	43.3%	56.7%	21.9%	78.1%	25.7%	74.3%	43.3%	56.7%
	Didn't	947	52.4%	47.6%	61.5%	38.5%	39.5%	60.5%	41%	59%	61.5%	38.5%
Professional	Did	356	30.6%	69.4%	72.8%	27.2%	20.5%	79.5%	33.1%	66.9%	72.8%	27.2%
	Didn't	2603	41.2%	58.8%	84.8%	15.2%	34%	66%	53.9%	46.1%	84.8%	15.2%
Soc Sci	Did	1095	29.3%	70.7%	65.3%	34.7%	17.4%	82.6%	23.1%	76.9%	65.3%	34.7%
	Didn't	3811	52.2%	47.8%	77.7%	22.3%	36%	64%	47%	53%	77.7%	22.3%
Other/Undecided	Did	544	26.5%	73.5%	71.3%	28.7%	22%	78%	22.4%	77.6%	63.2%	36.8%
	Didn't	4160	46.5%	53.5%	83.5%	16.5%	40.3%	59.7%	46.5%	53.5%	76.7%	23.3%
Native Amer.	Did	19	57.9%	42.1%	73.7%	26.3%	36.9%	63.1%	31.6%	68.4%	36.8%	63.2%
	Didn't	204	53.9%	46.1%	84.3%	15.7%	44.1%	55.9%	49.5%	50.5%	75.5%	24.5%
Asian	Did	387	48.1%	51.9%	64.3%	35.7%	33.1%	66.9%	45.3%	54.7%	68.7%	31.3%
	Didn't	1679	54.6%	45.4%	79.5%	20.5%	45.4%	54.6%	42.8%	57.2%	75.4%	24.6%
Black	Did	196	42.3%	57.7%	62.2%	37.8%	14.8%	85.2%	32.1%	67.9%	57.7%	42.3%
	Didn't	2240	59.2%	40.8%	85.6%	14.4%	41.4%	58.6%	55.1%	44.9%	76.5%	23.5%
White	Did	3805	28.4%	71.6%	69.5%	30.5%	20.6%	79.4%	22.5%	77.5%	67.2%	32.8%
	Didn't	17,600	45.3%	54.7%	81.3%	18.7%	37.8%	62.2%	46.6%	53.4%	78.6%	21.4%
Mexican	Did	107	39.3%	60.7%	59.8%	40.2%	28%	72%	31.8%	68.2%	66.4%	33.6%
	Didn't	1093	61.7%	38.3%	84.7%	15.3%	45.6%	54.4%	56.4%	43.6%	79.4%	20.6%
Puerto Rican	Did	28	39.3%	60.7%	71.4%	28.6%	21.4%	78.6%	32.1%	67.9%	75%	25%
	Didn't	205	57.6%	42.4%	87.3%	12.7%	49.8%	50.2%	57.1%	42.9%	82.4%	17.6%
Other Hispanic	Did	127	35.4%	64.6%	67.7%	32.3%	20.5%	79.5%	35.4%	64.6%	57.5%	42.5%
	Didn't	767	55.3%	44.7%	83.4%	16.6%	44.2%	55.8%	53.7%	46.3%	76.9%	23.1%
Multiracial	Did	150	27.3%	72.7%	70%	30%	15.3%	84.7%	20%	80%	67.3%	32.7%
	Didn't	740	53.2%	46.8%	82.2%	17.8%	37.8%	62.2%	46.4%	53.6%	76.2%	23.8%
Other Race	Did	90	38.9%	61.1%	70%	30%	23.3%	76.7%	24.4%	75.6%	72.2%	27.8%
	Didn't	386	57.8%	42.2%	79%	21%	44.6%	55.4%	55.7%	44.3%	75.1%	24.9%
No Response	Did	329	38.3%	61.7%	69.6%	30.4%	24.6%	75.4%	29.8%	70.2%	66.3%	33.7%
	Didn't	1476	54.1%	45.9%	82.9%	17.1%	43.2%	56.8%	53.7%	46.3%	78%	22%

The Chi-Square Test

Several non-parametric models had to be run to properly analyze the data in order to answer the research question. Each of these models is explained in the following sections using summary tables.

Study abroad co-participation

To present statistical analysis in this section, while maintaining brevity, it became necessary to create two different summary tables of the statistical results. The first summary table (see Table 3) presents the Chi Square (χ^2) score and the significance (p) value found for each test run.

Table 3. Summary Table of Results that Includes Chi Square (χ^2) and (p) Values when Considering Study Abroad Participation and Participation in each Voluntary HIP

	Internship Participation χ^2 (p)	Community Service χ^2 (p)	Co-curricular Participation χ^2 (p)	Extracurricular Work with Faculty χ^2 (p)	Research with Faculty χ^2 (p)
Males	169.952 (.000)	165.767 (.000)	155.136 (.000)	124.982 (.000)	189.922 (.000)
Females	340.381 (.000)	415.210 (.000)	420.235 (.000)	189.885 (.000)	294.868 (.000)
Arts & Hum.	104.288 (.000)	141.077 (.000)	115.340 (.000)	68.909 (.000)	76.694 (.000)
Bio. Sci.	58.363 (.000)	38.009 (.000)	18.497 (.000)	9.160 (.002)	33.093 (.000)
Business	199.384 (.000)	180.373 (.000)	163.683 (.000)	99.194 (.000)	117.296 (.000)
Education	12.234 (.000)	35.407 (.000)	40.055 (.000)	34.847 (.000)	27.444 (.000)
Engineering	8.183 (.004)	12.127 (.000)	5.271 (.022)	5.559 (.018)	40.277 (.000)
Phys Sci.	41.115 (.000)	20.772 (.000)	8.704 (.003)	.903 (.342)*	21.165 (.000)
Professional	14.678 (.000)	26.044 (.000)	14.710 (.000)	23.991 (.000)	32.662 (.000)
Social Sci.	179.060 (.000)	134.609 (.000)	115.583 (.000)	40.919 (.000)	69.614 (.000)
Other Major	77.711 (.000)	67.325 (.000)	63.221 (.000)	46.482 (.000)	47.571 (.000)
Native Amer.	.111 (.740)*	.875 (.350)*	.756 (.385)*	12.934 (.000)	1.419 (.234)*
Asian	5.429 (.020)	19.434 (.000)	2.636 (.104)*	7.296 (.007)	40.091 (.000)
Black	20.867 (.000)	53.596 (.000)	25.023 (.000)	20.867 (.000)	72.368 (.000)
White	364.111 (.000)	412.584 (.000)	430.744 (.000)	227.480 (.000)	260.127 (.000)
Mexican	20.343 (.000)	12.148 (.000)	12.315 (.000)	9.766 (.002)	41.880 (.000)
Puerto Rican	3.329 (.068)*	7.950 (.005)	1.048 (.106)*	.906 (.341)*	4.990 (.025)
Other Hisp.	17.210 (.000)	25.388 (.000)	23.292 (.000)	21.494 (.000)	17.656 (.000)
Multiracial	33.508 (.000)	28.130 (.000)	3.396 (.065)*	5.210 (.022)	11.579 (.001)
Other Race	10.484 (.001)	13.641 (.000)	18.634 (.000)	.325 (.568)*	3.382 (.066)*
No Response	26.768 (.000)	38.856 (.000)	17.176 (.000)	20.170 (.000)	30.415 (.000)

*Indicates a result that was not significant

As can be seen from Table 3, the most clearly visible variance in statistical significance occurred surrounding the control variable of race and ethnicity. Native American students who studied abroad only demonstrated significantly higher participation in one category (extracurricular work with faculty outside of class). Similarly, Puerto Rican students who studied abroad only showed significantly higher participation in the categories of community service and research with faculty. Most of the study abroad participant sample demonstrated clear multiple-participation in many activities, regardless of race/ethnicity, with approximately one category in which each racial or ethnic group did not show significantly high co-participation.

There was no marked difference in multiple-participation by sex; both men and women who studied abroad showed significantly higher participation in every dependent variable measured. This allowed for the conclusion that study abroad participants, with regard to sex, tend toward multiple-participation. Regarding major, only Physical Science majors who studied abroad demonstrated a propensity not to work with faculty often or very often in relation to their extracurricular activities. Overall, however, the results clearly show that study abroad students tend toward multiple-participation, with specific exceptions for race and major.

Table 4 presents the effect size for each result. Effect size was measured using the Cramer's V (ϕ_c). The effect sizes for Cramer's V had interesting variances dependent both on controlling variable and dependent variable.

Table 4. Cramer's V Effect Sizes for Analysis of Study Abroad and Voluntary High Impact Activity while Controlling for Gender, Major, and Race

	Internship Participation ϕ_c	Community Service ϕ_c	Co-curricular Participation ϕ_c	Extracurricular Work w/ Faculty ϕ_c	Research with Faculty ϕ_c
Males	.121	.120	.116	.104	.128
Females	.130	.144	.145	.097	.121
Arts & Hum.	.145	.169	.153	.118	.125
Bio. Sci.	.159	.128	.089	.063	.120
Business	.183	.174	.166	.129	.141
Education	.068	.115	.122	.114	.101
Engineering	.063	.077	.051	.052	.140
Phys Sci.	.190	.135	.088	***	.137
Professional	.070	.094	.071	.090	.105
Social Science	.191	.166	.153	.091	.119
Other Major	.129	.120	.116	.100	.101
Native Amer.	***	***	***	.241	***
Asian	.051	.097	***	.059	.139
Black	.093	.148	.101	.093	.172
White	.130	.139	.142	.103	.110
Mexican	.130	.101	.101	.090	.187
Puerto Rican	***	.185	***	***	.146
Other Hispanic	.139	.169	.161	.156	.141
Multiracial	.194	.178	***	.077	.114
Other Race	.148	.169	.198	***	***
No Response	.122	.147	.098	.106	.130

***Denotes no Cramer's V score due to a result that was not significant

According to Rea and Parker (2014), the majority of these results can be described as weak associations. However, weak associations are still adequate to support the legitimacy of the findings (Rea & Parker, 2014).

Based on the finding of multiple-participation, it is clear that we can reject the null hypothesis that there is no relationship between students who chose to participate in study abroad and chose to participate in other high-impact educational practices or co-curricular activities.

Conclusions & Implications

In the current study, it was considered whether or not students who had studied abroad were also involved in other voluntary high-impact educational practices and in co-curricular activities at a more significant level than students who did not study abroad. The findings of this study utilized

national data to show that study abroad participants tend toward multiple-participation, with some exceptions based on race, ethnicity, and major.

This study controlled for gender, race/ethnicity, and academic major. These control variables were chosen because it was clear from an analysis of the literature that there was a lack of substantial research into specific student groups related to these categories, some of whom under-participate in study abroad, and some of whom have been underrepresented in the empirical literature despite growing populations that have chosen to study abroad (Holmes, 2008; Posey, 2003; Rust et al., 2008; Yankey, 2014).

Summary and Interpretation of Findings

Based on the statistical analysis, we can draw conclusions about each of the co-participation variables and their relationship with study abroad participation. Overwhelmingly, students who study abroad chose to engage in multiple-participation in other voluntary HIPs, in co-curricular programming, and in interactions with faculty for extracurricular purposes, and there is a differentiation between the participation pathways of different groups of students when controlling for race/ethnicity, gender, and major.

However, the results do not conclusively show that students who study abroad chose to engage in multiple-participation among all the control variables associated with race/ethnicity. In several instances, Native American and Puerto Rican students who studied abroad demonstrated a lack of significantly higher participation in the dependent variables measured. This could be due to a host of factors, not least of which is the likelihood that these populations of study abroad participants may have to work to support their education; this conclusion was also drawn by BaileyShea (2009). The lack of significant participation in other areas can also be a demonstration of the small sample sizes for each of these ethnic/racial groups in the current data sample. However, what is also important to recognize is that when Native American students did show a co-participation pathway in working with faculty for extracurricular purposes, they had the largest effect size of the entire study. This means that students who are Native American and study abroad are much more likely to also interact with faculty for extracurricular purposes.

Additionally, Asian students and students of other races also showed a lack of co-participation in particular variables. It is unclear whether this lack of co-participation is due to student characteristics, if it is due to other factors related to the dependent variables chosen for this study, or whether it relates to another variable that is not yet distinguished. Follow-up research would be necessary to draw conclusions in that regard.

Another interesting finding related to the control variable of race/ethnicity is the fact that Puerto Rican students, Mexican students, and Other Hispanic students all showed different co-participation pathways. This highlights the need for less research in student development and student engagement that considers all Hispanic students to be the same, and more recognition that different Hispanic students have different experiences.

What is clear is that with the exception of Native American and Puerto Rican students, it is safe to say that the majority of students, regardless of race or ethnicity, do tend toward multiple-participation more than their peers who did not study abroad. However, it is also clear that

participants' multiple-participation has a variance in co-participation pathways related to the race or ethnicity of the individual studying abroad.

With regard to major, study abroad students showed multiple-participation across the board, with the exception of physical science majors who studied abroad and the relationship they had with faculty members outside of class. Additionally, the most negligible associations in regard to effect size were among engineering majors. This finding highlights the continuing difficulty that engineering majors face in developing a life outside of the classroom (Burt et al., 2011).

Implications of Findings

On what sets study abroad participants apart from other college students

A look at previous literature in conjunction with these findings helps to establish that students who study abroad have several characteristics that set them apart from other college students. It has been established that study abroad students are more likely to be women, affluent, and from a liberal arts institution (Pascarella & Terenzini, 2005; Rust et al., 2008). However, newer research has demonstrated that there are other characteristics common to study abroad participants; namely, study abroad participants are more likely to think highly of their institution and are more likely to be retained at college (Di Maggio, 2017; Malmgren & Galvin, 2008; Metzger 2006). It has also previously been established that study abroad students have greater social capital (Griswold, 2014). Furthermore, it has been established that underrepresented populations are more likely to study abroad if their friends study abroad with them, or if those with similar characteristics have a high enrollment at the university (Posey, 2003; Yankey, 2014).

A careful construction of these findings in conjunction with BaileyShea (2009) and the current study leave us with some significant insight into the study abroad participant. First, we know from BaileyShea that study abroad participants get involved in study abroad because they have been involved in other activities. Additionally, we know from the current study that study abroad participants are likely to be involved in many activities on campus (with some exceptions related to major, race, and ethnicity). Add the BaileyShea and current findings to the other characteristics discussed, and we begin to see a picture of study abroad students. Students who study abroad are often very involved students, who get involved in many other activities in addition to study abroad, who are committed to developing social capital, and who participate in study abroad (if they are from an underrepresented study abroad population) if others who are like them choose to enroll in higher numbers at their university or if their friends study abroad with them. Based on existent research, we also know that, as student affairs practitioners, we need to increase equity within study abroad so that underrepresented populations are made to feel like study abroad is an option for them as well; the research clearly shows that socio-economic and ethnic/racial factors are at play in study abroad participation, but not in one's desire to study abroad (BaileyShea, 2009; Rust et al., 2008).

Implications for further research

The first area of research stemming from existent empirical knowledge and the current study relates to the linkages between different study abroad student characteristics. First, further research should be developed to see if there is a connection between study abroad participants' propensity

for multiple-participation and their increased social capital. Second, a statistical model should be developed that determines whether there is any causality between the findings of increased social capital and studying abroad. Third, there should be further research into the causation between involvement in other activities and studying abroad.

An additional area of potential future research related to previous findings and the current study is: Are study abroad students more likely to be retained and more likely to think positively of their institution because of their involvement in study abroad?; or do they think highly of the institution because they are already so embedded in the social fabric of the college or university? The linkages between multiple-participation, retention/persistence, and study abroad should be more closely examined.

Furthermore, the findings of the current study are also interesting because they show that students of some races and ethnicities do not show multiple-participation in the same way as other study abroad students do. Additionally, previous research has shown that regardless of ethnicity, students who study abroad are more likely to be retained to the university; however, previous studies into underlying retention constructs for study abroad students have had inconclusive results (Di Maggio, 2017; Malmgren & Galvin, 2008). Therefore, this means that further research needs to be done into underrepresented populations who study abroad to delineate how the characteristics of underrepresented students varies from white, female students who study abroad.

Additionally, because the student affairs researcher can now identify that study abroad participants are taking part in many other activities on campus besides study abroad, there are also implications which can be explored in future research in relation to student development outcomes. Since study abroad participants typically engage in a multitude of activities, it is now possible for researchers to potentially explain in future studies why student development and engagement results for the study abroad student population are so unclear and may at times contradict themselves (Du, 2007; Hansen, 2010; Pascarella & Terenzini, 2005). Many researchers consider the participation in HIPs and how that participation affects a student's progress in a particular area (Cubillos & Ilvento, 2013; Finley, 2008; Gonyea, 2008); however, it is also clear that students who study abroad are more likely to be involved in many other activities and to participate in other HIPs. Therefore, some of the confusing findings into study abroad may be explainable because of students' multiple-participation.

Implications for student affairs practice

Based on a careful construction of earlier findings and the findings of the current study, several implications for practice in student affairs emerge as a result of this research. First, students typically study abroad during their junior year; this may be because this is historically how study abroad experiences and programs have been framed since the first nationally recognized study abroad program was created at the University of Delaware (AIFS, 2013; Lee, 2012). However, if the student affairs professional is more thoughtful about construction of study abroad experiences that promote retention (Di Maggio, 2017; Malmgren & Galvin, 2008), and whose participants demonstrate multiple-participation, then it would be better practice in study abroad for programs to be encouraged earlier in a students' career during either the freshman or sophomore year. This will allow study abroad students to go abroad and be better retained to the institution, and it will allow

students the opportunity to either potentially explore leadership positions in students' other areas of co-curricular involvement during the junior year or consider a more significant international experience later in their college career. Both would allow greater growth and learning for this student population that is prone to multiple-participation.

Additionally, another implication for practice is the variance in co-participation for Native American students. Native American students in this study were shown to be significantly more likely to interact with faculty outside of class if they were also study abroad participants. The effect size of this finding was the largest in the study; this means that there is a strong connection between study abroad among Native Americans and their participation with faculty outside of class. While causation was not determinable in this study, promotion of study abroad among Native American students has the potential to strengthen faculty-student relationships, a hallmark of student success (Kuh, 2009a; 2009b; 2009c).

A final area where best practice can be distilled from the findings of this study is with regard to identifying ways to increase study abroad participation in college students. Knowing that BaileyShea (2009) and this study both found that students' earlier involvement predicates involvement in study abroad and knowing that study abroad participants engage in a multitude of co-curricular activities and other HIPs, an opportunity to increase study abroad participation presents itself. By creating study abroad opportunities that either tie to other voluntary HIP activities, or that tie to other co-curricular programs (e.g., for Greek letter organizations, particular co-curricular clubs, etc.), the student affairs professional can encourage that multiple-participation existent in study abroad participants by allowing students to tie different areas of involvement together. Additionally, based on previous findings, this would also help encourage minority participation and the participation of more men in study abroad activities (Posey, 2003; Yankey, 2014). As an example, planning a study abroad program specifically with the Black Student Association or with the fraternity community on-campus would engage those students who engage in multiple-participation at the threshold of their other areas of campus involvement, and it would encourage underrepresented populations to become involved in study abroad (Posey, 2003; Yankey 2014). Additionally, by tying two HIPs together and marketing study abroad programs that are service-learning based, that allow for the opportunity of an internship abroad, or that are tied to research activities with faculty will also increase study abroad participants' further participation because they can become involved in multiple activities while abroad.

Conclusion

It was the purpose of the current study to identify whether or not study abroad participants were more likely to engage in other voluntary HIPs and in co-curricular programming than students who did not study abroad. With the exception of specific majors and racial/ethnic groups, it was clear that study abroad participants, overall, participated in more HIPs and co-curricular activities than their peers who did not study abroad. The results of this study offer much to the field of student affairs and to advancing the empirical knowledge surrounding study abroad.

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