

Friends Matter: The Relationship Between Korean International Students' Friendship Networks and Study Abroad Outcomes

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Abstract: This study examined the determinants of international students' interactions with different friendship networks and the relationships of these interactions with study abroad outcomes, using data from 482 Korean college students who had participated in international student exchange programs. The results showed that students' participation in extracurricular and off-campus activities while studying abroad was significantly related to their interactions with local and other international students. The results also showed that students' interactions with co-national, local, and other international students while studying abroad were positively associated with their intercultural competence, personal development, and career development, even after controlling for other variables. We discuss the policy implications of these findings beyond the Korean context.

Keywords: Study abroad outcome, international student, friendship, South Korea

Introduction

Over the past several decades, an increasing number of students have crossed borders to pursue their education globally. Organisation for Economic Co-operation and Development (OECD, 2019) statistics show that the number of students studying abroad increased from two million students in 1998 to 5.3 million students in 2017. Accordingly, scholars have increasingly paid attention to the experiences of this population. They have especially focused on international students' adjustment in different cultures (e. g., Smith & Khawaja, 2011), and the literature has consistently shown that international students' adjustment can benefit from interaction with local students (Brunsting, Zachry, & Takeuchim 2018; Cao, Meng, & Shang, 2018; Geeraert, Demoulin, & Demes, 2014; Hendrickson, Rosen, & Aune, 2011; Zhang & Goodson, 2011). In reality, however, international and local students tend to have little interaction with each other (Rienties & Nolan, 2014; Schartner, 2015; Smith & Khawaja, 2011). Rather, international students tend to select friends from similar cultural backgrounds, although they strongly desire

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to interact with local students in the host country (Lehto, Cai, Fu, & Chen, 2014; Sakurai, McCall-Wolf, & Kashima, 2010; Schartner, 2015; Yan & Berliner, 2013).

However, as Montgomery and McDowell (2009) have pointed out, international students' lack of relationships with local students should not be understood from a deficit perspective. This is because international students' interactions with co-national students can help with their adjustment, particularly in the beginning of their study abroad period (Geeraert et al., 2014; Rienties & Nolan, 2014; Yan & Berliner, 2013). Furthermore, international students' interactions with other international students can support their academic learning and provides them with emotional support (Montgomery & McDowell, 2009; Schartner, 2015). Nevertheless, little scholarly attention has been given to factors that may promote or constrain international students' interactions with co-national or other international students. Instead, considerable research has focused on identifying patterns in intercultural friendships and factors that can facilitate international students' interactions with local students (Glass, Gómez, & Urzua, 2014; Hendrickson, 2018; Montgomery & McDowell, 2009; Rienties, Hélot, & Jindal-Snape, 2013; Rienties & Nolan, 2014; Rose-Redwood & Rose-Redwood, 2013; Woods et al., 2013).

In addition to contributing to their adjustment, international students' intercultural interaction can also facilitate their development in different areas. Indeed, in their comprehensive review of research on the outcomes of international student mobility programs, Roy, Newman, Ellenberger, and Pyman (2009) concluded that short-term study abroad experiences can contribute to participants' development in terms of their cultural, personal, and career outcomes. Nevertheless, little research has focused on international students' positive experiences of learning and development. Rather, much existing research has focused on international students' negative experiences of difficulties and struggles in their adjustment (Moore & Popadiu, 2011). However, a group of scholars has argued that we need to move beyond the deficit model of international students and the "adjustment paradigm," wherein they are seen as learning from Western culture and needing help in their adjustment (Heng, 2018; Marginson, 2014; Montgomery & McDowell, 2009).

In this study, we addressed these issues by examining Korean students' intercultural interactions while studying abroad and the relationships between these interactions and various learning outcomes. Korea is an appealing case for research on study abroad because it is one of the major sending countries of international students (OECD, 2019) and because much prior research on study abroad outcomes has concentrated on students from Western countries (Roy et al., 2019). Whereas most research on intercultural interaction has collected data from international students studying in one country, we used data collected from Korean students who had studied abroad in various countries. The current study was guided by the following research questions:

1. What determines Korean international students' interactions with co-national, local, other international students?
2. How do Korean international students' interactions with co-national, local, other international students relate to their study abroad outcomes?

Background

Theoretical Framework

Allport (1954) proposed the contact hypothesis, which suggests that intergroup contact can reduce prejudice under the four conditions of equal status, common goals, cooperation, and authority support for contact (Pettigrew, 2016; Pettigrew, Tropp, Wagner, & Christ, 2011). Numerous studies have tested the contact hypothesis, finding evidence that intergroup contact can generally reduce prejudice (Paluck, Green, & Green, 2019; Pettigrew & Tropp, 2006). Although the extent to which previous studies have met Allport's four conditions for optimal contact in examining its impact is debatable, Pettigrew and colleagues advanced the contact hypothesis by suggesting that cross-group friendship can satisfy the conditions required for a positive contact effect (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Paluck et al., 2019; Pettigrew, 2008; Pettigrew et al., 2011; Pettigrew & Tropp, 2008).

With regard to international students' social relations, Bochner, McLeod, and Lin (1977) proposed a functional model of international students' friendship patterns, which consists of three types of social networks. The first and most prominent of these is formed with students who are from the same country or have a similar cultural background for the purpose of sharing and expressing their own culture. The second is formed with local students for an instrumental function, such as supporting academic and practical needs. The third and least salient type of social network is formed with other international students for recreational purposes (Bochner et al., 1977).

International higher education scholars have applied these theoretical models to explain international students' intercultural interactions and the relationship with study abroad outcomes. For example, Fry, Paige, Jon, Dillow, and Nam (2009) highlighted the importance of the contact hypothesis for understanding the impact of study abroad experiences. Specifically, international students' interactions with local people can contribute to these students' social adjustment and positive attitudes toward local people (Cao et al., 2018; Geeraert et al., 2014). The current study builds on and extends the literature testing the contact hypothesis by examining whether Korean international students' intercultural interactions with different friendship networks are related to these students' study abroad outcomes.

Prior Research on International Students' Intercultural Interactions

Previous work has revealed that various types of curricular and extracurricular activities can facilitate international students' intercultural interactions (Hendrickson, 2018; Rienties, Alcott, & Jindal-Snape, 2014; Woods et al., 2013). For example, Hendrickson (2018) found that international students' satisfaction with a tutoring program increased their interactions with local students. Similarly, Woods et al. (2013) reported that international students' participation in a mentoring program increased their intercultural interactions with people from different ethnic backgrounds. In addition, Vande Berg, Connor-Linton, and Paige (2009) found that international students who participated in a mentoring program showed a higher level of intercultural competence compared with non-participants.

Extracurricular activities, such as participation in cultural clubs, sports, and group activities in a dormitory, also promote interaction between local and international students

(Hendrickson, 2018; Luo & Jamieson-Drake, 2013; Nesdale & Todd, 2000). By contrast, international students' difficulties in joining social or leisure activities hinder their relationships with local students (Glass et al., 2014). International students' interactions with different groups of students, along with in-class activities, increase their intercultural interactions (Rienties et al., 2014). The random assignment of students into cross-cultural groups and well-structured classes have been found to be particularly effective for students' intercultural interactions and learning outcomes (Rienties et al., 2014; Rienties & Nolan, 2014).

Existing work in this area has largely focused on international students' interactions with local students, with few studies examining international students' interactions with co-national and other international students. It thus remains to be seen what determines international students' interactions with co-national or other international students. In this study, we addressed these limitations of the prior research by including a comprehensive set of factors, such as study abroad program characteristics (e.g., duration and location) and participants' personal characteristics, which may be associated with international students' intercultural interactions.

Prior Research on Study Abroad Outcomes

Intercultural competence, including intercultural sensitivity, respect for different cultures, and reduced stereotypes, has often been considered as an expected outcome of studying abroad (Twombly, Salisbury, Tumanut, & Klute, 2012). Numerous studies have documented that study abroad experiences help develop students' intercultural competence (e.g., Fry et al., 2009; Jones, Rowan-Kenyon, Ireland, Niehaus, & Skendall, 2012; Terzuolo, 2018; Twombly et al., 2012). In recent years, scholars have emphasized the importance of program interventions such as providing a cultural mentor in facilitating intercultural competence through study abroad (Vande Berg et al., 2009; Vande Berg, Paige, & Lou, 2012). However, more research is needed about the specific conditions under which studying abroad helps to increase intercultural competence (Salisbury, An, & Pascarella, 2013; Twombly et al., 2012).

Another line of work suggests that study abroad experiences lead to increases in independence, confidence, tolerance, and self-formation (Fry et al., 2009; Degraaf, Slagter, Larsen, & Ditta, 2013; Jones et al., 2012; Marginson, 2014; Moores & Popadiuk, 2011). For example, Fry and colleagues (2009) showed that study abroad participants gain confidence, independence, and survival skills by navigating and living in different cultures on their own. International experiences can also promote self-formation, helping individuals to become "reflexive and self-determining" by addressing disequilibrium between their own country and the host country (Marginson, 2014, p.11). However, previous studies in this area have mainly used qualitative methods. Few studies have used quantitative approaches to examine the relationship between study abroad and personal development. One notable exception is a study conducted by Luo and Jamieson-Drake (2014) that demonstrated that study abroad increases college students' understanding of moral and ethical issues.

A growing volume of research shows a relationship between study abroad participation and career development. For example, study abroad participants tend to pursue international careers by working abroad or working for multinational companies in their home countries and performing internationally oriented tasks (Di Pietro, 2012; Norris & Gillespie, 2009; Wiers-Jenssen, 2008). Students who participate in study abroad programs also gain em-

employability skills and career prospects, including foreign language ability, interpersonal and communication skills, and adaptability (Franklin, 2010; Potts, 2015; Trooboff, Vande Berg, & Rayman, 2007). Importantly, recent studies have showed that study abroad programs also affect participants' motivations and passions regarding career direction and identity (Jon, Shin, & Fry, 2020; Potts, 2015). Such career-related psychological development helps to explain not only how study abroad participants choose internationally oriented careers but also how they come to decide upon other career paths, such as graduate studies, international service, or jobs for the public good (Jon et al., 2020). However, previous quantitative work has mostly focused on the pursuit of international careers. In this study, we addressed the limitations of prior research by using quantitative data to analyze the relationships of study abroad with various dimensions of career development.

Methods

Data and Sample

We collected data from 482 Korea University undergraduate students who had participated in international student exchange programs from fall 2010 to spring 2013. Korea University is one of the most selective private universities located in Seoul, Republic of Korea. For the data collection, Korea University's Office of International Affairs contacted all students who had studied abroad during this particular period of time. The international exchange programs lasted one semester or one year. The survey instrument was developed on the basis of a literature review on study abroad outcomes and qualitative interviews with Korean study abroad participants. This instrument was then reviewed by study abroad practitioners, educational measurement experts, and Korean study abroad participants (Jon, Lee, & Seo, 2014). Data were collected using an online survey (response rate = 31.3%, 482 out of 1,542).

Measures

Study Abroad Outcomes

The examined study abroad outcomes were (1) intercultural competence, (2) personal development, and (3) career development. Intercultural competence was assessed by averaging 10 items measured on six-point scales of disagreement–agreement with the following statements: (a) “I feel comfortable interacting with people who have different cultural backgrounds”; (b) “I listen carefully and patiently to others from different cultures”; (c) “I think I can learn a lot from other cultures”; (d) “I can be close friends with people from different cultures, nationalities, and backgrounds”; (e) “I keep up with international news and events through the media”; (f) “I think Korean culture can flourish by having more immigrants in Korean society”; (g) “I can understand the difficulties and positions of foreigners living in Korea”; (h) “I can behave appropriately when I am in a culturally different society”; (i) “I like working with international students on team projects”; and (j) “I can help international students around me who experience difficulties” ($\alpha = .91$). Personal development was as-

sessed by averaging nine items measured on six-point scales of disagreement–agreement with the statement that after study abroad participants had changed in terms of the following characteristics: (a) “broader perspectives toward the world,” (b) “not worrying about what others think of me,” (c) “open-mindedness,” (d) “self-confidence,” (e) “self-directedness,” (f) “independence,” (g) “self-reflection,” (h) “survival skills in an unfamiliar place,” and (i) “change in core values about life” ($\alpha = .90$). Finally, career development was assessed by averaging four items measured on six-point scales of disagreement–agreement with the following statements: (a) “I experienced change in the criteria for choosing a job,” (b) “I further developed the career plan I initially had,” (c) “I would like to pursue a career abroad,” and (d) “I welcome new challenges in my career journey” ($\alpha = .75$).

Intercultural Interaction

Intercultural interaction was measured by assessing three different types of interaction on the basis of students’ answers to the question “How often do you interact with the following students?: (a) Korean students, (b) local students, and (c) other international students.” For each item, responses ranged from 1 (*not at all*) and 6 (*very frequently*).

Explanatory Variables

On the basis of past work, we considered gender, major, previous international experiences, received tutoring, received mentoring, participated in extracurricular activities (e.g., social and cultural events), participated in off-campus activities, type of study abroad classes taken, (i) destination country, and (j) duration of stay as potential factors associated with students’ intercultural interactions and study abroad outcomes. Gender and major were based on respondents’ reports of their sex (0 = male, 1 = female) and college major (arts and humanities, social sciences, or sciences). Previous international experiences were included as a dichotomous variable indicating whether respondents had any previous international experiences. Tutoring and mentoring were included as dichotomous variables indicating whether respondents received any tutoring or mentoring while studying abroad. Extracurricular activities and off-campus activities were included as dichotomous variables indicating whether respondents participated in social events and off-campus activities while studying abroad. Type of classes attended was a categorical variable indicating whether respondents took a regular class for local undergraduate students, a class for international exchange students, or a language class for international exchange students. Destination country was the country where respondents went to study abroad, categorized as the United States, Canada, European countries, China, Japan, or other. Finally, duration of stay was included as a dichotomous variable indicating whether respondents stayed for a semester or for a year.

Analytic Strategy

First, we calculated descriptive statistics for the variables included in the analyses. Second, to examine the predictors of intercultural interaction, we conducted ordinary least squares (OLS) regression analyses for each type of intercultural interaction. Third, to examine the association between intercultural interaction and study abroad outcomes, we conducted OLS regression analyses controlling for other variables. To handle missing data on the independent variables,

we used multiple imputation (see Table 1 for the percentages of imputed data). Although the literature suggests that accurate results can typically be obtained using two to 10 imputations (Rubin, 1987; von Hippel, 2005), we generated 25 imputed datasets to improve the stability of the estimates using. Specifically, following the recommendations of Johnson and Young (2011), we included all the dependent and independent variables in the imputed model to predict the missing values. We then pooled estimates from the 25 imputed datasets using Rubin's (1987) rule.

Results

Descriptive Findings

Table 1. Descriptive Statistics for the Independent Variables Included in the Analyses

Variable	Total		
	<i>M</i>	<i>SD</i>	% of imputed data
Study abroad outcomes			
Intercultural competence	4.52	0.88	0.0
Personal development	4.74	0.83	0.0
Career development	4.29	1.05	0.0
Intercultural interaction			
With Korean students	4.40	1.55	0.5
With local students	4.58	1.22	1.5
With other international students	4.91	1.20	2.8
Individual characteristics			
Female	0.73	–	0.0
Major			0.0
Arts and Humanities	0.39	–	
Social sciences	0.40	–	
Sciences	0.21	–	
Previous international experiences	0.74	–	0.0
Tutoring	0.44	–	0.0
Mentoring	0.66	–	0.0
Extracurricular activities	0.89	–	0.0
Off-campus activities	0.53	–	0.0
Type of class			1.3
Regular class for local undergraduate students	0.76	–	
Class for international exchange students	0.13	–	
Language class for international exchange students	0.11	–	
Destination country			0.0
United States	0.22	–	
Canada	0.14	–	
European countries	0.33	–	

Variable	Total		
	<i>M</i>	<i>SD</i>	% of imputed data
China	0.10	–	
Japan	0.07	–	
Other	0.15	–	
1-year duration of stay	0.41	–	0.3
<i>N</i>	399		

Note. The estimates are an average of the results across 25 imputed datasets using Rubin's (1987) rule.

Table 1 presents descriptive statistics for the variables included in the analyses. In brief, the students included in our analyses showed relatively high levels of intercultural competence ($M = 4.52$, $SD = .88$), personal development ($M = 4.74$, $SD = .83$), and career development ($M = 4.29$, $SD = 1.05$). They also showed relatively high levels of intercultural interactions with Korean ($M = 4.40$, $SD = 1.55$), local ($M = 4.58$, $SD = 1.22$), and other international ($M = 4.91$, $SD = 1.20$) students. Women made up 73 % of the participants. Arts and humanities majors accounted for 49 % of the sample, 40 % were social science majors, and 21 % were science majors. Most (74 %) had previous international experiences. Tutoring and mentoring services were used by 44 % and 66 %, respectively, while studying abroad. The majority of the participants had participated in extracurricular and off-campus activities (89 % and 53 %, respectively) while studying abroad. Most participants (76 %) took a regular class designed for local undergraduate students, 13 % took a class for international exchange students, and 11 % took a language class for international exchange students. Regarding the destination country, 22 % went to the United States, 14 % to Canada, 33 % to European countries, 10 % to China, and 7 % to Japan. The percentages studying abroad for a year and for a semester were 41 % and 59 %, respectively.

Predictors of Intercultural Interaction

Table 2 presents the OLS regression results for the predictors of different types of intercultural interaction. For intercultural interaction with Korean students, there was a positive association with previous international experiences ($\beta = .35$, $p < .05$) and a negative association with receiving tutoring ($\beta = -.42$, $p < .05$), controlling for other variables. Participation in off-campus activities was also negatively associated with interaction with Korean students ($\beta = -.45$, $p < .01$). For intercultural interaction with local students, in contrast, there was a positive association with participation in off-campus activities ($\beta = .29$, $p < .05$), showing that students who participated in off-campus activities interacted more frequently with local students, compared with those who did not participate in off-campus activities. In addition, students who studied abroad for a year interacted more frequently with local students ($\beta = .28$, $p < .05$) than did those who studied abroad for a semester, even after controlling for other variables. Finally, students with social science majors more frequently interacted with other international students ($\beta = .33$, $p < .05$), compared with students majoring in arts and humanities, after controlling for the other variables. Participation in extracurricular activities ($\beta = .57$, $p < .01$)

Table 2. Predictors of Different Types of Intercultural Interaction

Variable	Intercultural interaction					
	With Korean students		With local students		With other international students	
	B	SE	B	SE	B	SE
Female	0.34	0.18	-0.22	0.14	0.11	0.14
Major						
Arts and Humanities (reference)	-	-	-	-	-	-
Social sciences	0.30	0.18	0.08	0.14	0.33 *	0.14
Sciences	0.16	0.22	0.03	0.17	0.22	0.17
Previous international experiences	0.35 *	0.17	-0.17	0.14	0.13	0.14
Tutoring	-0.42 *	0.16	0.20	0.13	0.12	0.13
Mentoring	0.14	0.17	-0.16	0.14	-0.03	0.14
Extracurricular activities	-0.18	0.26	-0.27	0.21	0.57 **	0.20
Off-campus activities	-0.45 **	0.16	0.29 *	0.13	0.29 *	0.13
Type of class						
Regular class for local undergraduate students (reference)	-	-	-	-	-	-
Class for international exchange students	-0.01	0.26	-0.15	0.21	0.13	0.20
Language class for international exchange students	0.21	0.29	-0.29	0.23	0.08	0.22
Destination country						
United States (reference)	-	-	-	-	-	-
Canada	-0.01	0.26	-0.22	0.21	0.21	0.21
European countries	-0.02	0.22	-0.22	0.18	0.34	0.17
China	-0.06	0.36	-0.04	0.28	0.38	0.28
Japan	-0.44	0.35	0.15	0.28	-0.07	0.28
Other	0.30	0.26	0.21	0.20	-0.16	0.20
1-year duration of stay	-0.33	0.17	0.28 *	0.14	-0.23	0.13
Constant	4.35 ***	0.38	4.94 ***	0.31	3.78 ***	0.30

Variable	Intercultural interaction			
	With Korean students		With other international students	
	B	SE	B	SE
Adjusted R-squared ^a	0.08		0.06	
N	399		0.04	

Note. The estimates are an average of the results across 25 imputed datasets using Rubin's (1987) rule.

^aEstimates were based on one complete and imputed dataset.

* $p < .05$. ** $p < .01$. *** $p < .001$. (two-tailed tests)

and participation in off-campus activities ($\beta = .29, p < .05$) were positively related to intercultural interaction with other international students.

Relationships Between Intercultural Interaction and Study Abroad Outcomes

Table 3 presents the OLS regression results for the predictors of the examined study abroad outcomes. The results showed that intercultural interaction with both local and international students was important for predicting all three study abroad outcomes, even after controlling for other variables. In other words, students who more frequently interacted with local and international students while studying abroad showed higher levels of intercultural competence, personal development, and career development. There were some significant gender differences in study abroad outcomes, with women showing significantly lower levels of intercultural competence and career development compared with men. Students who took a class for international exchange students showed a lower level of intercultural competence ($\beta = -.30, p < .05$) compared with those who took a class for local students. After controlling for the other variables, students who participated in off-campus activities showed a higher level of personal development ($\beta = .22, p < .05$) than did their counterparts who did not participate in these activities. Finally, students who studied in Japan tended to show a lower level of personal development ($\beta = -.47, p < .05$) compared with those who studied in the United States, controlling for other factors.

Discussion

This study examined the determinants of Korean international students' interactions with different friendship networks and the relationships of these interactions with three study abroad outcomes. To summarize the key findings, first, we found that those who actively engaged in extracurricular activities were more likely to interact with other international students, controlling for other variables. This result is consistent with previous research finding that extracurricular activities could help to build social networks (Neri & Ville, 2008). However, engagement in extracurricular activities was not significantly related to interaction with local students, controlling for other factors. Second, we found that participation in off-campus activities promoted friendship with local students and with other international students but significantly reduced interaction with co-national students, controlling for other variables. This finding suggests that off-campus activities, such as part-time jobs, internships, and community service, can provide a venue where Korean international students are able to engage in local contacts beyond those that are available on campus.

Third, in contrast to the previous literature (Hendrickson, 2018; Woods et al., 2013), we found that international students' participation in tutoring and mentoring did not significantly promote interaction with local or international students, after controlling for other variables. This may be partly because of the diversity of the study abroad locations included in the sample and possibly the variation across different programs. Fourth, we found that international students majoring in social sciences tended to interact more frequently with international students than did their counterparts majoring in arts and humanities. Presumably, academic programs for social science majors may host more international students compared

Table 3. Predictors of Study Abroad Outcomes

Variable	Study abroad outcomes					
	Intercultural competence		Personal development		Career development	
	B	SE	B	SE	B	SE
Intercultural interaction						
With Korean students	0.02	0.03	0.00	0.03	-0.01	0.03
With local students	0.15 ***	0.04	0.11 **	0.03	0.13 **	0.04
With international students	0.14 ***	0.04	0.15 ***	0.04	0.15 ***	0.04
Female	-0.25 *	0.10	-0.03	0.09	-0.40 **	0.12
Major						
Arts and Humanities (reference)	-	-	-	-	-	-
Social sciences	-0.04	0.10	-0.10	0.09	-0.02	0.12
Sciences	-0.06	0.12	-0.17	0.12	-0.07	0.15
Previous international experiences	0.12	0.10	-0.04	0.09	-0.04	0.12
Tutoring	0.14	0.09	0.09	0.09	0.01	0.11
Mentoring	0.13	0.10	-0.07	0.09	-0.04	0.12
Extracurricular activities	0.01	0.15	0.08	0.14	-0.06	0.18
Off-campus activities	0.10	0.09	0.22 *	0.09	0.18	0.11
Type of class						
Regular class for local undergraduate students (reference)	-	-	-	-	-	-
Class for international exchange students	-0.30 *	0.15	-0.07	0.14	-0.33	0.17
Language class for international exchange students	-0.28	0.16	-0.03	0.15	-0.15	0.19
Destination country						
United States (reference)	-	-	-	-	-	-
Canada	0.08	0.15	-0.05	0.14	0.14	0.18
European countries	0.12	0.12	-0.05	0.12	0.11	0.15
China	0.26	0.20	0.01	0.19	0.29	0.24
Japan	-0.18	0.19	-0.47 *	0.18	0.14	0.24
Other	0.05	0.14	-0.21	0.14	0.17	0.17
1-year duration of stay	0.03	0.10	-0.02	0.09	0.03	0.12

Variable	Study abroad outcomes					
	Intercultural competence		Personal development		Career development	
	B	SE	B	SE	B	SE
	2.92 ***	0.33	3.52 ***	0.31	3.28 ***	0.40
Constant						
Adjusted R-squared ^a	0.12		0.10		0.08	
N	399					

Note. The estimates are an average of the results across 25 imputed datasets using Rubin's (1987) rule.

^aEstimates were based on one complete and imputed dataset.

* $p < .05$. ** $p < .01$. *** $p < .001$. (two-tailed tests)

with other programs, such as business. Additionally, we found that international students with a longer study abroad duration were more likely to interact with local students. This finding suggests that a longer stay can provide more opportunities to interact and form relationships with local students. However, we found that participants with previous international experiences were more likely to interact with co-national students. Students with previous international experiences may be less motivated to interact with students from other countries probably because they already have such experiences. More research is needed to better understand the roles played by academic major and previous experiences in determining interactions with different friendship networks.

Regarding the relationships between students' interactions with different friendship networks and the examined study abroad outcomes, we found that participants' intercultural interaction was positively associated with their intercultural competence. This finding supports the contact hypothesis (Allport, 1954) and confirms prior findings on the positive role of intercultural interaction for international students (Cao et al., 2018; Geeraert et al., 2014). In addition, we found that participants with frequent interaction with other international students showed slightly higher levels of personal and career development. This finding suggests that international students' educational experiences can benefit from intercultural interaction with other international students. Previous work has predominantly emphasized the importance of international students' interaction with local students, as well as the issue of little interaction between these two groups (Rienties & Nolan, 2014; Schartner, 2015; Smith & Khawaja, 2011). However, our finding that frequent interactions with other international students were positively related to personal and career development highlights the significance of the international student community in providing a supportive learning environment and emotional support for international students (Montgomery & McDowell, 2009). This result suggests that, to improve educational outcomes, institutions should promote international students' interaction not only with local students, but also with other international students.

Finally, we found that students who took classes exclusively for international students showed a lower level of intercultural competence compared with their peers who took regular classes for local students, even after controlling for other variables. This finding suggests that international students show a higher level of international competence when they take regular classes with local students than when they take classes only with other international students. This finding is consistent with previous studies suggesting that students who share classrooms with the local students experience more host conformity pressure because they need to learn the language of the host country and acquire behaviors exhibited by local students (Hendrickson, 2018). Given that a classroom is an important setting that offers opportunities for intercultural interaction and for the development of various competences, international students' taking classes with local students can provide an environment conducive to broadening their intercultural competence.

Limitations of the Study and Directions for Future Research

The current study has several limitations that need to be addressed in future research. First, we used cross-sectional data to examine factors associated with study abroad outcomes. Thus, we cannot make causal claims about the relationships among the examined variables, and our results should be interpreted with caution. Second, our study focused on a single Korean

university and its students who had studied abroad. Therefore, it remains to be seen whether our findings are generalizable to other college students in Korea and elsewhere. Third, although we examined a number of variables, there may be other variables associated with international students' interactions with different types of students and with their study abroad outcomes. Therefore, future research should use longitudinal survey data that include a more comprehensive set of variables to examine the predictors and effects of international students' friendship networks.

Conclusion

Despite these limitations, the current study demonstrates that international students' intercultural interaction can be promoted by study abroad participation as a form of extended education in college, offering learning contexts and opportunities outside regular classroom teaching. Extended education, as a rich source of educational experiences that are not covered by school curriculum-based learning, provides an opportunity for students to accumulate cultural capital in a broader sense (Stecher, 2018). In terms of its theoretical contribution, this study supports the contact hypothesis, and the findings provide evidence for the need to go beyond the deficit model of international students, which depicts them as in need of help (Heng, 2018; Marginson, 2014; Montgomery & McDowell, 2009).

This study also has the potential to inform colleges and universities hosting international students of the need to design study abroad programs carefully. Staying in the host country for a short duration, for example, may limit international students' chances to interact with local students or other international students. Students themselves need to make efforts to interact with diverse networks of students, but, to achieve positive educational outcomes, institutions also need to support them to facilitate meaningful contacts with other students by, for example, running a carefully designed mentoring program. To enrich their intercultural experiences and help them form friendships with different groups of students, international education practitioners need to create opportunities for international students to participate in various types of curricular and extracurricular programs. Furthermore, these practitioners also need to encourage international students' enrollment in regular classes for local students, guide faculty in designing classes in a way that facilitates interactions among different groups of students and help local students to participate in educational activities with international students. The internationalization of higher education needs to be inclusive, involving various of groups of students, both mobile and non-mobile (de Wit & Jones, 2018).

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