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## **Helping International Students Identify Themselves: Social Media Usage and Organizational Attachment**

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### **ABSTRACT**

The relationship between social media usage and personality has received increased scrutiny recently. The current study studies international students' organizational attachment through the exploration of their personality and usage of university social media. Participants were 51 international students from a Midwest State University and 49 domestic (U.S.) students for comparison purposes. Results showed some differences in the structure of personality, level of social media usage, and level of organizational attachment comparing international students and domestic students. Results also supported the complementary purpose of using social media for international students, where agreeableness and openness to experience are negatively associated with social media usage. Moreover, the relationship was stronger when students' English proficiency is lower. An overall model demonstrated the relationship among international students' personalities, university social media usage, and organizational attachment.

**Keywords:** Big Five Personality, organizational attachment, social media usage

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## INTRODUCTION

Global academic mobility is progressively more documented and researched; however, not much research has been conducted from the perspective of fundamental personality traits to understand the difference between international and domestic students. By applying a scientific lens on this phenomenon, the present study aims to discover similarities and differences in university social media usage between international and domestic students from the perspective of personality profiles, and investigate the association with university organizational attachment.

### **Using the Big Five Personality Traits to Understand Current Students**

Personality is the result of life experiences, forged on observation, trial and error, and environmental factors; every decision we make contributes to its development (McCrae & Costa, 2003). In recent years, people have increasingly relied on digital technology for commonplace tasks; everything we do online creates a quantifiable digital footprint that can be analyzed and tracked to give us an insight on our habits and personality traits (Ai et al., 2019; Youyou et al., 2015).

International students face the challenge of adapting to a new language, new culture, and a substantially different environment. The whole process of adaptation is different for every individual, but learning about students' personalities through this digital footprint will allow us to understand the way people are reacting to different situations relative to their perception and potentially improve communication by building data-based bridges between academic institutions and students.

For this first study, we used the Big Five model to find trends in international students' opinions regarding social media usage and university communications. The Big Five factors include extraversion (e.g., sociability, assertiveness), emotional stability (e.g., anxiousness, insecurity), agreeableness (e.g., courteousness, cooperative), conscientiousness (e.g., dependability, perseverance), and openness to experience (e.g., imaginative, curious; Barrick & Mount, 1991; Gosling et al., 2003).

### **Understanding the Younger Generations**

The majority of traditional-aged students in universities are now considered "Generation Z (Gen Z)" or students born from the mid- to late-1990s and early 2000s (Mintz, 2019). Gen Z has lived in a world without a barrier to technology; they have been bombarded with information and have different filtering habits from other generations. In addition, their preferred method of communication is through social media and apps (Anderson & Jiang, 2018; Twenge, 2017). Gen Z is also characterized as being more ethnically diverse, likely to be enrolled in college, and living with a college-educated parent (Wang, 2018).

Some of the top social media networks for U.S. teens are YouTube, Instagram, and Snapchat, with lower percentages reporting Facebook use

(Anderson & Jiang, 2018; Green, 2019). Among international users, WeChat is a popular messaging app, with about 1 billion users (Lee, 2019). Facebook and Twitter are also popular internationally (Poushter et al., 2018). These platforms, with their unique emphases, attract this younger generation by allowing them to create and share multimedia content with the public or private audiences (Binsahl et al., 2015).

Even though there have been studies on domestic students' social media usage from the personality perspective, the results have not been consistent (Huang, 2019). In the current study, we explore the issue of retention of international millennial and Gen Z students using the lens of university social media use and interaction from a personality perspective.

### **International Student Profile**

Research has shown the support for the Big Five structure, but most research focuses on personality patterns in different countries (cf. Schmitt et al., 2007), different cultures (Hofstede & McCrae, 2004), different economic prosperities (Lynn & Martin, 1995), and various geographic factors (Allik & McCrae, 2004). Our current study contributes to the existing literature by using a unique sample from a specific geographic location with a diverse international student community. Similar to expatriates, international students move to a different country and a majority of them are using a different (nonnative) language to communicate and study. As such, we believe these students who self-select to study abroad are likely to have different levels of Big Five traits compared with domestic students (Caligiuri, 2000) under an etic perspective (Allik & Allik, 2002). For instance, individuals who choose to go abroad for their education are more likely to have higher openness to experience and are more curious and broad-minded (Barrick & Mount, 1991). Moreover, individuals who come from a culture with the ideology of obedience (e.g., Young, 2017) and decide to study abroad might tend to have different levels of sociability and emotionality. Thus, we would like to propose that international students have a different Big Five profile compared to domestic students:

H1: International students show a different pattern of personality portraits comparing to domestic students.

### **Social Media Usage Difference**

Social media platforms such as Facebook, Instagram, and Snapchat serve multiple purposes, and college students use them to share information and manage previously acquired and new social connections (Ellison et al., 2007). International students face challenges and opportunities adapting to the new culture and new environment and may not have the typical local or face-to-face social support system that domestic students may have. As such, international students may rely more on online social support systems, using one or more social media apps to address communication challenges. International students may also

be selective in the information they share with new acquaintances, and they have to do it in a second or third language.

Compared with face-to-face interactions, online social networking has certain advantages, including reducing obstacles (e.g., language barrier, culture differences), increasing communications, and finding communities through shared interests. With these features, we believe international students might be more likely to use social media websites than their domestic peers. Specifically, international students might be more likely to connect to their institution through Facebook, even though members of the Gen Z cohort might not use this as their primary social network site (Anderson & Jiang, 2018; Hodak, 2019). While Instagram and Snapchat are more popular with Gen Z, universities face far more hurdles in using these compared to individuals (e.g., need to post from a smartphone on Snapchat).

International students might be more likely to obtain information from social media sites since it allows them to avoid potentially awkward in-person interactions. Therefore, social media sites may be used by international students to establish communications with locals to gain social capital (Lin et al., 2012) and social support (Ye, 2006). In addition, students from Eastern cultures might perceive themselves as guests—observing, absorbing, and learning in the new culture—and, therefore, consider themselves to be less extraverted in expressing themselves (Hou et al., 2018). Culture shock is also a common experience induced by the different behavioral expectations in the host culture, and misunderstandings often occur (Hua et al., 2019; Zhou et al., 2008). Therefore, these cultural norms and customs could be the reason that international students are more likely to follow the sites than American students: For instance, in Eastern cultures, obedience to authority (i.e., university social media sites) is an important value of Confucian Dynamism (Young, 2017). Therefore, we propose:

H2: The frequency of social media using for international students is higher compared to domestic students.

## **Big Five and Social Media Usage**

Are personality traits the reason for different usage frequency of social media? With the increase and obsessive use of social media for young generations, researchers have been trying to examine the relationship of personality (e.g., Big Five) with social media uses (e.g., Correa et al., 2010; McCrae & Costa, 1997). Such research using U.S. samples have shown the relationships between Big Five dimensions and Internet activities, but interestingly, the relationships are moderated by the anonymity of the activities (e.g., Amichai-Hamburger, 2002). For nonanonymous social networking sites, studies found the usage related to extraversion (Quan-Haase, 2007; Zywicka & Danowski, 2008), neuroticism (Ehrenberg et al., 2008), and openness to experience (Ross et al., 2009). In the current study, we are interested in seeing if similar relationships exist in international students.

Using social media provides additional connections for people (Correa et al., 2010). We argue individuals who interact with more people (i.e., extraverted) are more likely to have more friends on social networking sites, therefore using these resources more often; people who are less emotionally stable (i.e., high in neuroticism) are more likely to use messaging functions for additional communications in addition to face-to-face conversations; and people who are more open to new experiences (high in openness) are more likely to accept new method (i.e., online) to connect with other people. Therefore, the presentation of these traits might be related to the usage of social media sites.

However, we believe the purposes and psychological needs of international students are different from those of domestic students. Instead of using social media sites to extend their social network, international students are more likely to use it as a tool to fulfill their psychological needs. For individuals higher in extraversion, agreeableness, and openness to experience are more likely to immerse in the new culture—making more friends and being able to absorb further information from friends; while their counterparts would rely more on social media/internet to seek information. Therefore, we propose a complementary purpose of using social media for international students.

H3: International students with lower extraversion, agreeableness, and openness are more likely to visit the university social media sites, while international students with lower consciousness and neuroticism are less likely to visit the university social media sites.

However, this complementary model may be moderated by how hard it is for international students to adapt to the host culture. English proficiency might make social media profiles and usage display higher similarities to those presented by their domestic counterparts, lowering the difference in social media habits. Therefore, we propose:

H4: The relationship between personality and social media usage will be stronger for students with lower English proficiency.

### **Big Five, Social Media Usage, and Organizational Attachment**

There is often a difference in identification levels between international and domestic students. International students choose to attend an institution outside of their home country based on limited contextual information; this decision demands the use of financial and human capital resources and requires a substantially different level of commitment (Mazzarol & Soutar, 2002). Rooted on sunk cost and the avoidance of cognitive dissonance, international students are more likely to express higher commitment and identification with their chosen institution (Ashforth & Mael, 1989; Meyer et al., 2002). Social media thus represents an opportunity to manage their image, and escalation of commitment can prompt these students to show higher levels of identification with the university to mark a difference from peers in their own home countries. Overall, we propose international students are more likely to show higher organizational

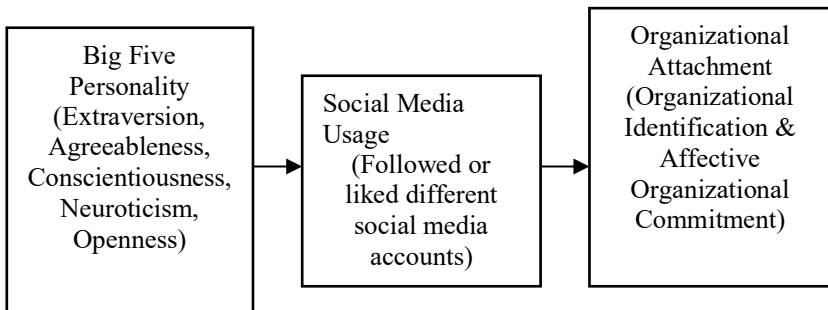
attachment, which is conceptualized by higher organizational identification and higher affective organizational commitment.

H5: International students show higher organizational attachment.

Besides the differences between international students and domestic students in their organizational attachment, personality also plays a role. Different personality characteristics of the students affect their perceived identification and commitment to the university in different ways. Therefore, we propose,

H6: Big Five personality dimensions are associated with organizational attachment.

Finally, the use of social media is related to organizational attachment (Gonzalez et al., 2013). Therefore, we propose an overall model that social media usage mediates the relationship between the Big Five personality and organizational attachment (Figure 1).



**Figure 1: Interaction Effect of English Ability and Openness on University Social Media Usage**

## METHOD

### Sample

Participants were 51 first-year international students enrolled at a public Midwestern state university. Data were collected during the university's international student orientation period. The University's Center for International Studies (CIS) incorporated the survey in the new student check-in orientation, and the staff from CIS facilitated the implementation and collection of the surveys during orientation. The average age of the sample was 20.1 and 53% were women. Students were pursuing multiple majors (e.g., business 41%; see Table 1) and from different countries (e.g., China 45.1%; see Table 1). The majority of the students (56.8%) have been in the United States for less than one month (and

78.4% had been in the United States less than three months) before this visit. To compare with the international students, we also collected similar data from 46 domestic students. The average age of the domestic students was 20.6 and 59% were women.

**Table 1: Majors and Nationalities (N=51)**

Variable	<i>n</i>	%
Major		
Business		
Finance	18	35.3
Management	1	2.0
Accounting	1	2.0
General business	1	3.0
Science and engineering		
Biomedical science	5	9.8
Computer science	4	7.8
Engineering	4	7.8
Statistics	1	2.0
General science	1	2.0
Liberal arts		
Psychology	2	3.9
Mass communication	1	2.0
Public affairs	1	2.0
Political science	1	2.0
Health		
Nurse	1	2.0
Art		
Music	1	2.0
Unspecified	8	15.7
Nationality		
Asia		
China	23	45.1
Nepal	4	7.8
Malaysia	4	7.8
Pakistan	4	7.8
Republic of Korea	3	5.9
India	3	5.9
Japan	1	2.0
Africa		
Nigeria	4	7.8
Ethiopia	2	3.9
Malawi	1	2.0
Rwanda	1	2.0
Kenya	1	2.0

## **Measures**

### ***Demographic Variables***

The demographic survey of the international students included the following questions: country of origin, age, gender, on- or off-campus living situation, and self-report of English fluency. Age and gender information were collected for domestic students.

### ***Big Five Personality***

The mini-International Personality Item Pool scale was used to assess participants' Big Five personalities (Donnellan et al., 2006) and reliability estimates are as follows: extraversion ( $\alpha = .77$ ), agreeableness ( $\alpha = .70$ ), conscientiousness ( $\alpha = .69$ ), emotional stability ( $\alpha = .68$ ), and openness ( $\alpha = .65$ ). The measure contains 20 items with four items for each dimension. Reversed items are included in the measure. One sample item was: "In general, I am the life of the party" for the extraversion dimension. Items were rated on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

### ***Social Media Usage***

We measured the self-reported social media usage including a general question "Have you visited any of University A's social media accounts?" and specific questions for different sites including, "Have you followed or liked: University A's official account; university mascot's social media account; University A's admission office; University A athletics, and University A International Studies Center?" Students checked the boxes in the metrics and results were coded by subject matter experts.

### ***Organizational Identification***

Organizational identification was measured using Mael and Ashforth's (1992) six-item measure ( $\alpha = .88$ ). A sample item is "When someone criticizes (Name of School), it feels like a personal insult. Items were rated on a scale ranging from 1 (*very weak*) to 5 (*very strong*).

### ***Affective Organizational Commitment***

Affective organizational commitment was measured using Meyer et al.'s (1993) eight-item measure ( $\alpha = .78$ ) with a sample item "I feel as if this organization's problems are my own." Items were rated on a scale ranging from 1 (*very weak*) to 5 (*very strong*).



RESULTS

Big Five Profile

Descriptive information, including means, standard deviations, correlations, and coefficient alphas, are listed in Table 2. We conducted independent samples *t* tests to test our hypotheses of differences between international and domestic students on various personality traits. Results showed that international students showed different patterns comparing with domestic students: higher neuroticism,  $t(95) = 2.6, p < .05$ , and higher openness to experience,  $t(95) = 2.5, p < .05$  (see Table 3).

Table 2: Means, Standard Deviations, and Correlations for Study Variables

	<i>M</i> ( <i>SD</i> )	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ext	3.04 (0.87)	.65														
Agr	3.48 (0.86)	.17	.64													
Con	3.44 (0.86)	.26**	.35**	.60												
Neu	2.89 (0.74)	-.04	.14	-.04	.43											
Ope	3.43 (0.87)	-.07	.33**	.24*	-.30	.60										
OI	3.20 (1.04)	.07	.04	-.12	.38**	.06	.88									
AOC	3.11 (0.83)	.02	.31**	0.03	.38**	.21*	.69**	.53								
Any	0.42 (0.50)	-.08	.03	.04	.00	-.03	.16	.09	—							
Off	0.47 (0.50)	.13	-.01	-.14	.14	-.23*	.02*	.17	.15	—						
Bli	0.16 (0.40)	.09	-.17	-.18	.09	-.17	.26*	.08	.01	.23*	—					
Adm	0.26 (0.44)	-.01	-.20*	-.20*	.21*	-.07	.20*	.09	.07	.34**	.29**	—				
Ath	0.33 (0.47)	.22*	-.11	-.05	.04	-.29**	.13	.04	.11	.52**	.37**	.34**	—			
CIS	0.26 (0.44)	.09	-.18	-.09	.10	-.10	.34**	.18	.07	.38**	.35**	.57**	.39**	—		
EA	0.20 (0.40)	-.03	-.29**	-.18	.16	-.12	.15	-.05	.05	.31**	.45**	.66**	.43**	.54**	—	
Lib	0.22 (0.41)	.03	-.25*	-.08	.08	-.15	.12	-.07	.16	.50**	.35**	.66**	.48**	.55**	.69**	—

Note. Numbers on the diagonal are coefficient alphas for various scales. Ext = extraversion; Agr = agreeableness; Con = conscientiousness; Neu = neuroticism; Ope = openness to experience; OI = organizational identification; AOC = affective organizational commitment; Any = visited any university social media sites; Off = followed or liked university official account; Bli = university branding website; Adm = university admissions; Ath = university athletics; CIS = Center for International Studies; EA = education abroad; Lib = library. \* $p < .05$ , \*\* $p < .01$ .

Social Media Usage Difference

We proposed that international students are more likely to use university social media sites than domestic students. We conducted multiple analyses of variance and independent samples *t* tests to determine differences in usage between the two groups. The multiple analyses of variance was conducted first to test if the overall effect was significant. If the overall effect is significant, individual *t* tests would be conducted to determine individual effects. Results showed significant difference in international and domestic students' social media sites usage,  $F(7, 89) = 2.19, p < .05$ ; Wilk's  $\Lambda = 0.853, \eta_p^2 = .147$ . Results for independent samples *t* test showed international students were more likely to visit university social media sites compared with domestic students in general (.53 vs.

.30,  $t[95] = -2.28, p < .05$ ). We further examined whether the two groups differed on the frequency of following or liking specific university websites using a series of independent samples  $t$  tests. Results indicate international students were more likely to follow or like the University’s International Studies Center account (.35 vs. .15,  $t[95] = -2.30, p < .05$ ; see Table 4).

**Table 3: Big Five Profile of International Student and Domestic Students**

Trait	International ( $n = 51$ )	Domestic ( $n = 46$ )	$t$ (df)	$p$
Extraversion	2.93	3.17	-1.37 (95)	.17
Agreeableness	3.50	3.45	0.31 (95)	.76
Conscientiousness	3.34	3.56	-1.26 (95)	.21
Neuroticism	3.07	2.69	2.60* (95)	<.05
Openness to experience	3.63	3.20	2.51* (95)	<.05
Organizational identification	3.62	2.74	4.58** (95)	<.01
Affective organizational commitment	3.43	2.76	4.35** (95)	<.01

*Note.* \* $p < .05$ , \*\* $p < .01$ .

**Table 4: Means, Standard Deviations, Standardized Differences for Social Media Usage**

Variable	International students ( $n = 51$ )	Domestic students ( $n = 46$ )	$t$	$p$
Visited any university social media sites	0.53 (0.50)	0.30 (0.47)	-2.28*	.03
University official account	0.49 (0.51)	0.46 (0.50)	-0.33	.74
University mascot	0.22 (0.46)	0.11 (0.32)	-1.30	.19
University admission offices	0.33 (0.48)	0.17 (0.38)	-1.80	.07
University athletics	0.27 (0.45)	0.39 (0.49)	1.22	.23
Center for International Studies	0.35 (0.48)	0.15 (0.36)	-2.30*	.02
Education abroad	0.25 (0.44)	0.13 (0.34)	-1.55	.13
Library	0.24 (0.43)	0.20 (0.40)	-0.47	.64

*Note.* For  $t$ , negative values indicate the international students’ higher frequency of using the site. \* $p < .05$ .

### Big Five and Social Media Usage

Results showed consistent associations between certain Big Five traits with social media usage. Specifically, we proposed agreeableness and openness to experience were more likely to show a negative relation with using multiple university social media sites (see Table 5). Therefore, Hypothesis 3 was partially supported.

**Table 5: Social Media Usage and International Student Profile Correlation**

Have you followed or liked	Ext	Agr	Con	Neu	Ope	OI	AOC
Off	.11 (.16)	-.41** (.30*)	-.17 (-.11)	.03 (.22)	-.37** (-.18)	.37** (-.14)	.13 (.20)
Bli	.10 (.15)	-.27 (-.09)	-.26 (-.09)	-.01 (.12)	-.43** (-.04)	.29* (.17)	-.06 (.13)
Adm	.08 (-.05)	-.37** (-.07)	-.19 (-.19)	.02 (.33*)	-.34* (.04)	.16 (.13)	-.17 (.20)
Ath	.14 (.26)	-.59** (.24)	-.20 (.02)	.04 (.10)	-.38** (-.21)	.18 (.23)	-.28* (.35*)
CIS	.23 (.06)	-.44** (.05)	-.10 (-.02)	-.10 (.20)	-.34* (-.04)	.30* (.27)	-.14 (.33*)
EA	.05 (-.06)	-.62** (.00)	-.22 (-.13)	.00 (.25)	-.47** (.07)	.18 (.00)	-.35* (.07)
Lib	.03 (.05)	-.60** (.04)	-.20 (.01)	.05 (.10)	-.42** (.00)	.18 (.05)	-.36** (.11)

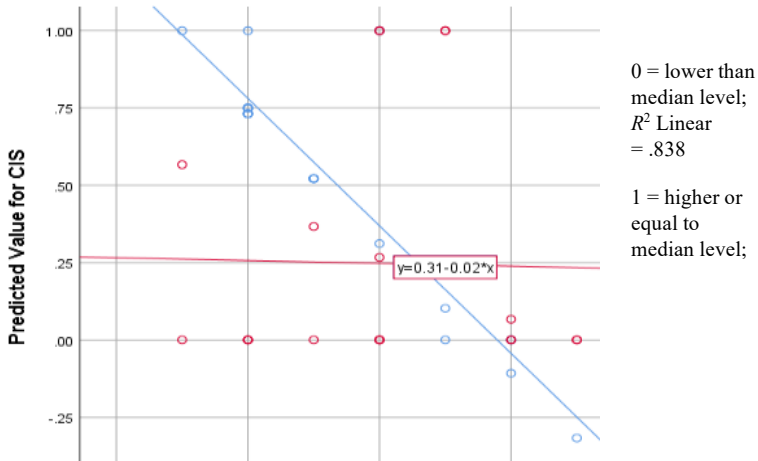
*Note.* Numbers on the diagonal are coefficient alphas for various scales. Ext = extraversion; Agr = agreeableness; Con = conscientiousness; Neu = neuroticism; Ope = openness to experience; OI = organizational identification; AOC = affective organizational commitment; Off = followed or liked university official account; Bli = university branding website; Adm = university admissions; Ath = university athletics; CIS = Center for International Studies; EA = education abroad; Lib = library. \* $p < .05$ , \*\* $p < .01$ .

We used the Hayes Process (Hayes, 2012) to test whether international students' English ability moderates the relationship between the Big Five personality traits and social media usage (Hypothesis 4). We found English ability interacted with several Big Five traits in predicting social media usage (see Table 6). To demonstrate these interactions, we plotted the impact of English Ability \* Openness on the usage (i.e., followed or liked) of the International Studies Center website (see Figure 2). We used a median split to categorize international students as having high English ability (median of 4.25 or higher; Category 1 in Figure 2) or low English ability (Category 0 in Figure 2). Results show that the negative relation between openness and social media usage is higher for those low in English ability. Hypothesis 4 is therefore partially supported.

**Table 6: Behavior of Followed or Liked Social Media Sites Predicted from Personality and English Ability**

SMS	Ext*EnA	Agr*EnA	Con*EnA	Neu*EnA	Ope*EnA
Off		-0.24* (-1.21, 0.74)			0.25* (-0.62, 1.12)
Bli	-0.23* (-2.05, 1.58)	2.02** (0.28, 3.75)	-0.52* (-2.62, 1.57)	2.85** (0.35, 5.36)	2.30** (-0.03, 4.63)
Adm	0.92* (-0.39, 2.23)	0.70* (-0.46, 1.86)			1.41** (0.31, 2.51)
Ath	-0.24* (-1.66, 1.18)	2.87** (0.32, 5.41)		1.67* (-0.27, 3.62)	1.10** (-0.06, 2.27)
CIS	0.49* (-0.78, 1.75)	0.54** (-0.64, 1.73)			1.30** (0.24, 2.37)
EA	-0.75** (-2.01, 0.52)	-0.28** (-7.04, 6.46)	0.02* (-1.47, 1.51)	2.08** (-0.22, 4.37)	0.99** (-0.57, 2.55)
Lib	-0.66* (-1.91, 0.59)	-0.55** (-7.24, 6.13)	0.03* (-1.46, 1.51)	1.86** (-0.37, 4.08)	0.80** (-0.64, 2.24)

Note.  $\beta$  and 95% CI are reported only for significant interactions ( $p < .05$  for the model significance) in the table. SMS = social media sites; EnA = English ability; Ext = extraversion; Agr = agreeableness; Con = conscientiousness; Neu = neuroticism; Ope = openness to experience; Off = followed or liked university official account; Bli = university branding website; Adm = university admission; Ath = university athletics; CIS = University Center for International Studies; EA = education abroad; Lib = library.



**Figure 2: Interaction Effect of English Ability and Openness on CIS usage (followed or liked)**  
**Big Five, Social Media Usage, and Organizational Attachment**

**Table 7: Multiple Regression Analyses for Big Five Personality Predicting Organizational Identification and Affective Organizational Commitment**

Variable	Organizational identification			Affective organizational commitment		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Extraversion	0.04	0.12	0.03	-0.06	0.10	-0.06
Agreeableness	-0.06	0.13	-0.05	0.20	0.10	0.20*
Conscientiousness	-0.28	0.13	0.22*	-0.13	0.10	-0.13
Neuroticism	0.34	0.15	0.24	0.25	0.11	0.23*
Openness	-0.01	0.13	-0.01	0.04	0.10	0.04
<i>R</i> <sup>2</sup>		0.14			0.13	
<i>F</i>		2.86*			2.89*	

Note. *N* = 51. \**p* < .05.

**Table 8: Behavior of Followed or Liked Social Media Sites Predicted from Personality and Group (International vs. Domestic Students)**

SMS	Ext*Group	Agr*Group	Con*Group	Neu*Group	Ope*Group
Off		-2.06**			-0.87**
		(-3.33, -0.79)			(-2.11, 0.37)
Bli					-0.28*
					(-0.48, -0.09)
Adm		-0.94*	0.05*	-1.25*	-1.48**
		(-2.29, 0.40)	(-1.24, 1.36)	(-2.90, 0.39)	(-2.89, -0.07)
Ath		-4.52**			-2.16**
		(-7.41, -1.64)			(-4.03, -0.29)
CIS	0.72*	-1.69**			-1.18**
	(-0.64, 2.07)	(-3.19, -0.19)			(-2.64, 0.28)
EA		-6.39**			-3.52**
		(-11.7, -1.02)			(-5.88, -1.16)
Lib		-6.22**			-4.70**
		(-11.49, -0.97)			(-7.91, -1.50)

Note.  $\beta$  and 95% CI are reported only for significant interactions (*p* < .05 for the model significance) in the table. SMS = social media sites; Ext = extraversion; Agr = agreeableness; Con = conscientiousness; Neu = neuroticism; Ope = openness to experience; Off = followed or liked university official account; Bli = university branding website; Adm = university admissions; Ath = university athletics; CIS = Center for International Studies; EA = education abroad; Lib = library.

Our analysis also showed international students are more likely to identify with the university and have a higher affective organizational commitment (see Table 3), supporting Hypothesis 5.

Correlations showed that neuroticism is positively related to organizational identification and affective organizational commitment, while conscientiousness is related to affective organizational commitment. To test whether international

students' Big Five personality traits predict organizational attachment (i.e., organizational identification and affective organizational commitment), we conducted multiple linear regression analyses. A significant regression equation was found,  $F(5, 90) = 2.86, p < .05$ , predicting organizational identification, with an  $R^2$  of .14 and specifically, conscientiousness and neuroticism were significant predictors of organizational identification (see Table 8). We also found a significant regression equation for affective organizational commitment,  $F(5, 90) = 2.59, p < .05$ , with an  $R^2$  of .13. Among five factors, agreeableness and neuroticism were significant predictors of affective organizational commitment (see Table 7). Therefore, hypothesis 6 is partially supported.

There are multiple factors to indicate social media usage while there are five dimensions in the personality measure. Therefore, an overall structural equation model was used to test the relationships among Big Five personality, social media usage, and organizational attachment; and is tested in Mplus. SEM results showed moderate fit:  $\chi^2(df = 15) = 26.82 (\chi^2/2 < 2)$ , CFI = .81, RMSEA = .12, SRMR = .07.

## DISCUSSION

For Gen Z, social media communication is a part of their daily life. Businesses have adapted and are using social media to reach out, and it is time for universities to adapt similar methods for recruitment and retention. Our study provides the first attempt to learn more about how international students' personalities interact with a university's social media presence. Our results provide several insights on the associations of the personality and the social media usage, which universities could use in their recruitment and retention process of international students (Redden, 2019).

First, this study highlighted the need for universities to use social media sites to interact with international students before and after they are admitted. In line with previous studies (e.g., Huang, 2019), our results indicate international students have a different profile compared with domestic students: Students who travel to study at a university in the United States generally are more sensitive and open to new experiences than domestic students who attend the same institution. They are also more likely to use the internet to gather information and follow the university's social media profiles (Esfahani & Chang, 2012; Kim et al., 2011; Saw et al., 2013). Therefore, universities can better utilize their social media pages to improve organizational attachment of international students by providing more information and better interactions with international students.

We also found an interesting variation: Domestic students are more likely to follow or like university athletic social media sites. Athletics are an important part of the college culture and they even impact domestic students' choice of universities, which leads us to think that they could be an excellent integration tool. In addition, domestic students are typically more familiar with university sports teams and would more likely identify with them (Cialdini et al., 1976).

Second, the findings confirmed that Big Five traits are crucial to international students' social media usage, and English proficiency further strengthens the ties.

Our study found that agreeableness and openness to experience showed negative associations with the use of multiple university social media sites. International students with a higher level of agreeableness and openness are usually more cooperative and eager to enjoy new experiences; thus, they are more comfortable and confident with interpersonal communications. Traditional and less prosocial students tend to prefer social media or websites to avoid human interactions. High English proficiency could boost their confidence while poor English skills push them to interact less. Social media becomes a safer platform to acquire information and interact with others. Previous research indicates that international students who socialize with domestic students generally adapt better than those who only make friends from their own countries (Gomes et al., 2015). Universities can design their social media pages as a useful social tool to help international students make friends extend their social network, to build a social media home away from home (Gomes et al., 2014).

Moreover, the findings also indicated the moderating role of social media on the relationship between personality and organizational attachment: The level of organizational identification and affective commitment with the university are associated with students' personality, and social media surveying is one of the mechanisms that can help us visualize this trend. The influx of a new generation is forcing universities to change their social media strategies to integrate and meet Gen Z's needs (Bizirgianni & Dionysopoulou, 2013). As suggested by previous studies (see Chang & Gomes 2017; Sleeman et al., 2016), universities become more humanized by interacting on social media with students to improve their "digital journey," which refers to "the transition that an individual makes online from relying on one digital bundle of sources to the other new bundle, perhaps based on the new host country or internationally" (Chang & Gomes, 2017, p. 355). Higher education institutions need to improve their efforts to become a part of this generations' activity.

## **CONCLUSION**

The restrictions of our study can provide guidelines for future research. First, our sample is relatively small and only from one university, which makes the moderation effect less reliable. We conducted further analyses to verify our hypotheses of the differences in usage between international and domestic students and the direction of the results aligned with our expectations. Future research may further explore with a larger sample size from more universities. Another potential limitation was the reliance on self-report data, which posed an internal validity threat. Before collecting the data, we did a presentation to explain the purpose of this study, answered questions, and helped translate some questions to those students with relatively lower English proficiency.

Moreover, the scope of this study was limited to show that university social media pages give rise to student's emotional attachment. Some international students rely heavily on their peers and senior colleagues other than academic advisors (Chen & Ross, 2015). They also use other social media (such as Weibo, WeChat for Chinese students, Cyworld for Korean) other than University social

media pages (Hjorth, 2007; Martin & Rizvi, 2014). It would be interesting to explore how interactions among international students on university social media pages drive their behaviors.

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